



HARRIS COUNTY
INSTITUTE
OF FORENSIC SCIENCES



2015
Annual
Report



The **MISSION** of the Harris County Institute of Forensic Sciences is to provide medical examiner and crime laboratory services of the highest quality in an unbiased manner with uncompromised integrity.



Accreditations

Accreditation Council for Graduate Medical Education

American Board of Forensic Toxicology

American Society of Crime Laboratory Directors/
Laboratory Accreditation Board-*International*

ANSI-ASQ National Accreditation Board
(Forensic Anthropology)

National Association of Medical Examiners

Texas Forensic Science Commission

Texas Medical Association for the Accreditation
Council for Continuing Medical Education

An aerial photograph of the University of Texas at Houston medical center and the surrounding downtown skyline. The image is tinted with a blue color scheme. In the foreground, several large, modern medical buildings are visible, including a prominent white building with a grid-like facade. The middle ground shows a dense cluster of skyscrapers, including the Houston skyline. The background features a hazy view of the city extending to the horizon. The text "A member institution of the Texas Medical Center since 1983" is overlaid on the right side of the image in a yellow and white font.

A member
institution
of the Texas
Medical Center
since 1983



Medical Examiner Service

Has the statutory duty to determine
cause and manner of death

Statistical Summary

- Harris County (HC) is the **third most populous county** in the nation, exceeded only by Los Angeles and Cook counties
 - **4.5+ million**¹ estimated HC population in 2015
 - **27,702** HC death certificates filed in 2015²
 - **41%** (11,248) of HC deaths reported to HCIFS in 2015
 - **4,644** medicolegal (ML) cases received by HCIFS for examination
 - **234** trauma inquest cases reported
 - **6,370** inquest only cases reported

- **4,935** deaths were certified in 2015, including:
 - **4,644** Harris County medicolegal cases (all brought to HCIFS for examination)
 - **234** trauma inquests
 - **57** out-of-county cases

¹ Population estimate for 2015 obtained from the United States Census Bureau

² Provisional Death Certificate data from the Texas Department of State Health Services



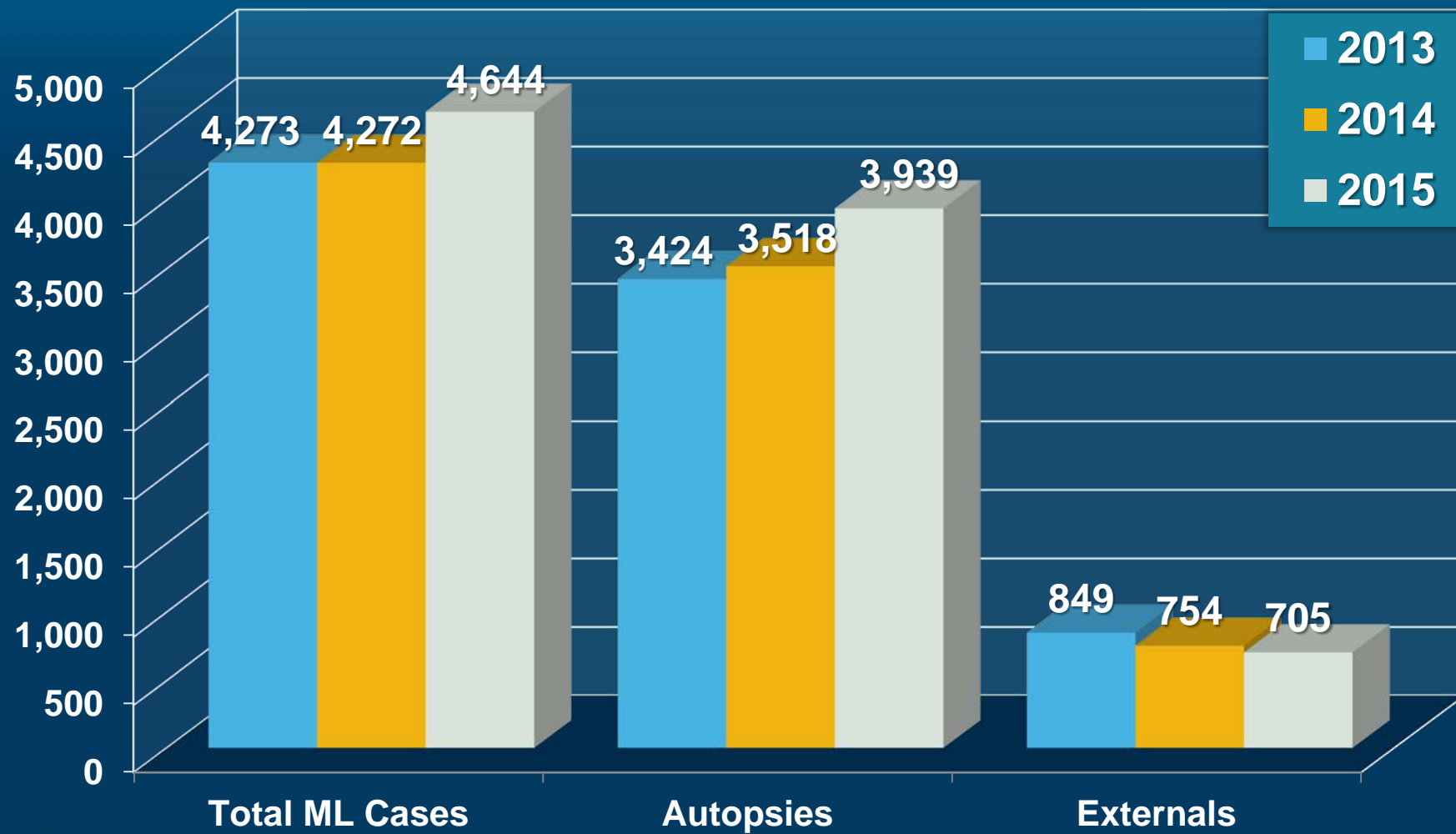
Statistical Summary

- **85%** of ML cases (3,939) received a full autopsy*
 - **15%** of ML cases (705) received an external examination only
- **226** decedents unidentified on arrival
 - **6** decedents remained unidentified at the end of 2015
- **239** referrals to Harris County Bereavement Services
- **11** anthropological exhumations performed
(Exhumation of cold cases under the NIJ Grant Using DNA to Identify the Missing)
- No hospital autopsies retained

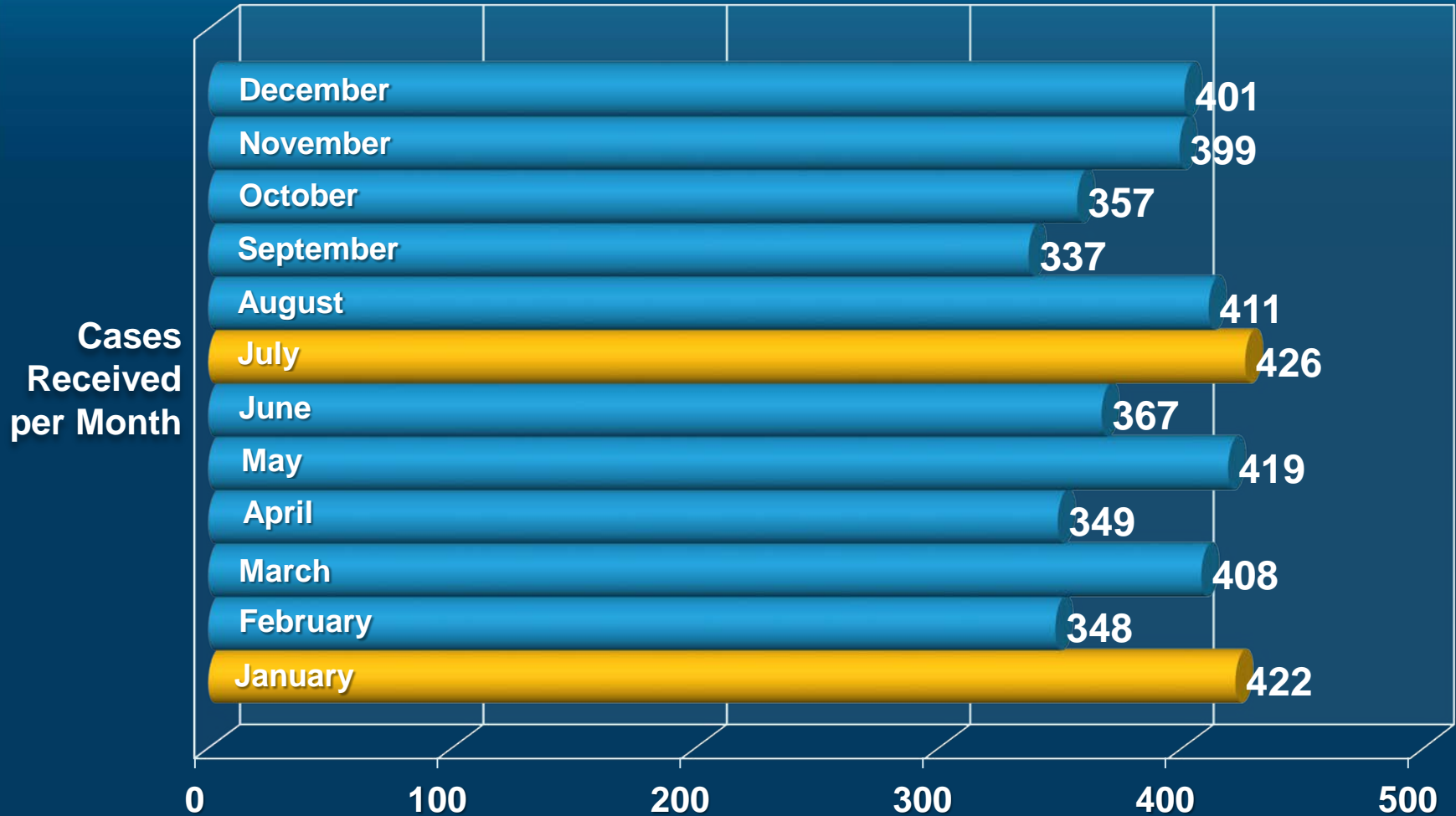
* Partial autopsies are not performed by the HCIFS



Total Caseload 2013-2015



Monthly ML Caseload 2015





Average Daily Medicolegal Caseload

2015: 12.7 cases

2014: 11.7 cases

Months with Highest Average Daily Caseload:

2015

- **July: 13.7 cases**
- **January: 13.6 cases**

2014

- **December: 12.4 cases**
- **August: 11.5 cases**

Organ & Tissue Donation Summary

- HCIFS maintains agreements with:

- LifeGift
- Lions Eye Bank of Texas at Baylor College of Medicine
- Biograft Transplant Services, Inc.



- **481** ML cases released for organ and/or tissue donation in 2015



Forensic Anthropology

Staffed by four doctoral-level forensic anthropologists

- **3** are Diplomates of the American Board of Forensic Anthropology

2015 case work:

- **72** autopsy consultations (no report)
- **252** bone/cartilage trauma or pathology reports
- **26** skeletal cases examined
- **32** death scenes attended for skeletal recovery
- **36** cases of remains examined and determined to be either non-human or non-forensic





Forensic Entomology

Staffed by a board-certified Forensic Entomologist

- All reports are peer-reviewed by an independent board-certified Forensic Entomologist

2015 Casework:

- 61 Cases
- 40 Scene Collections
- 18 Autopsy Collections
- 2 Scene & Autopsy Collections

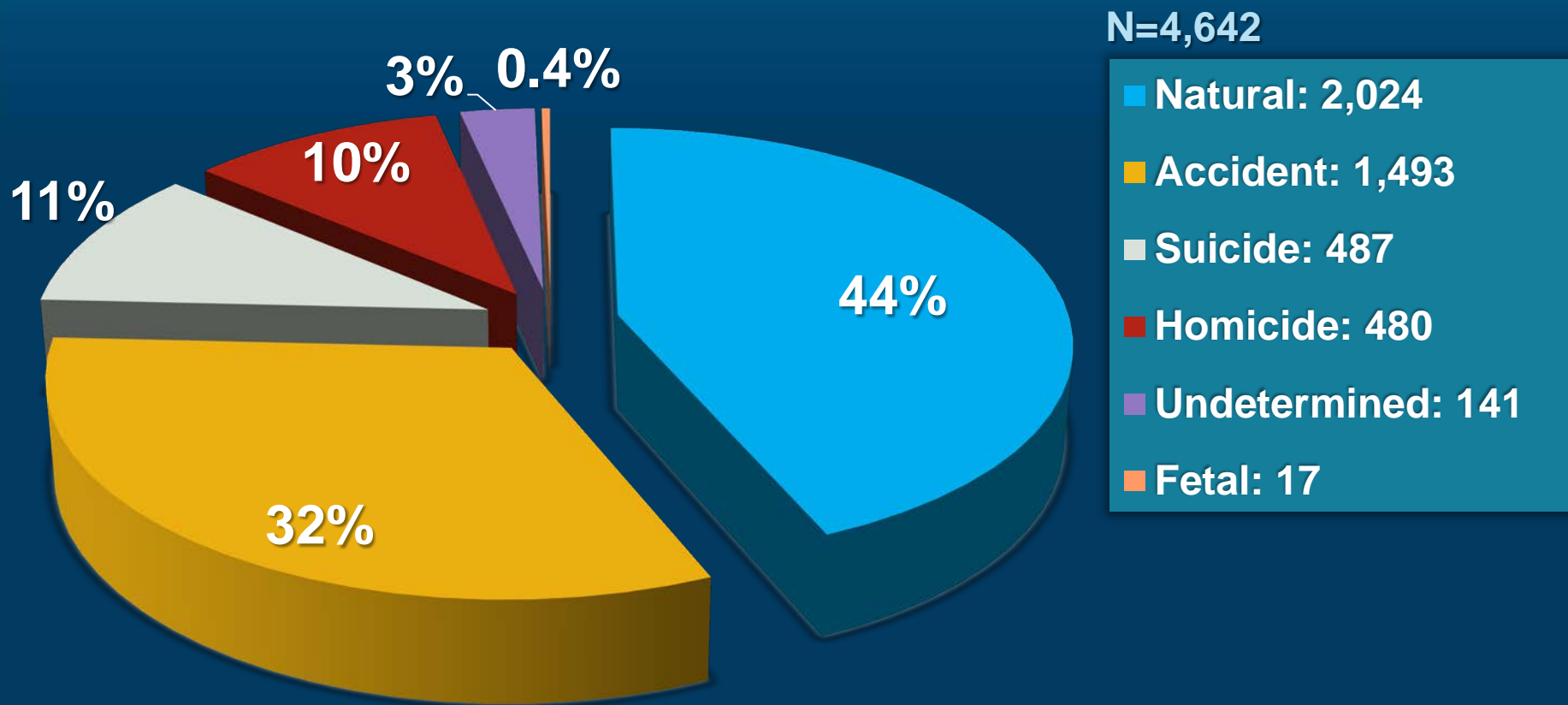
Manners of Death:

- | | |
|-------------------|---------------|
| ▪ 30 Natural | ▪ 7 Suicides |
| ▪ 12 Undetermined | ▪ 5 Homicides |
| ▪ 7 Accidents | |

ML Cases with Entomology Reports 2013-2015



Manner of Death Autopsy and External Exams

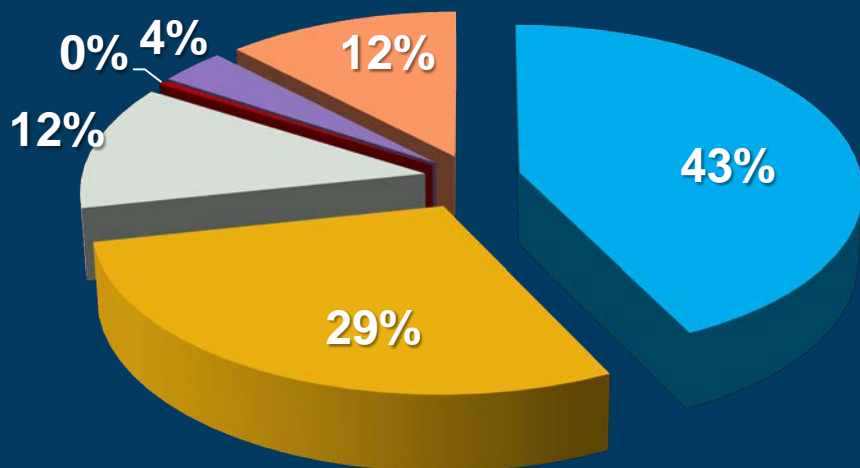


Manner of Death

Filtered by Autopsy and External Exams

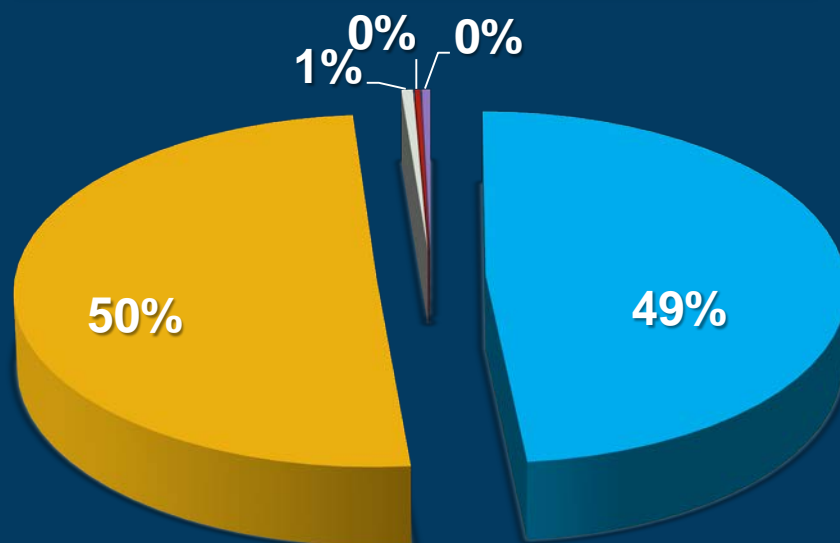
N=3,939 Autopsies

Natural: 1,683	Accident: 1,139
Suicide: 483	Fetal: 15
Undetermined: 138	Homicide: 480



N=705 External Exams

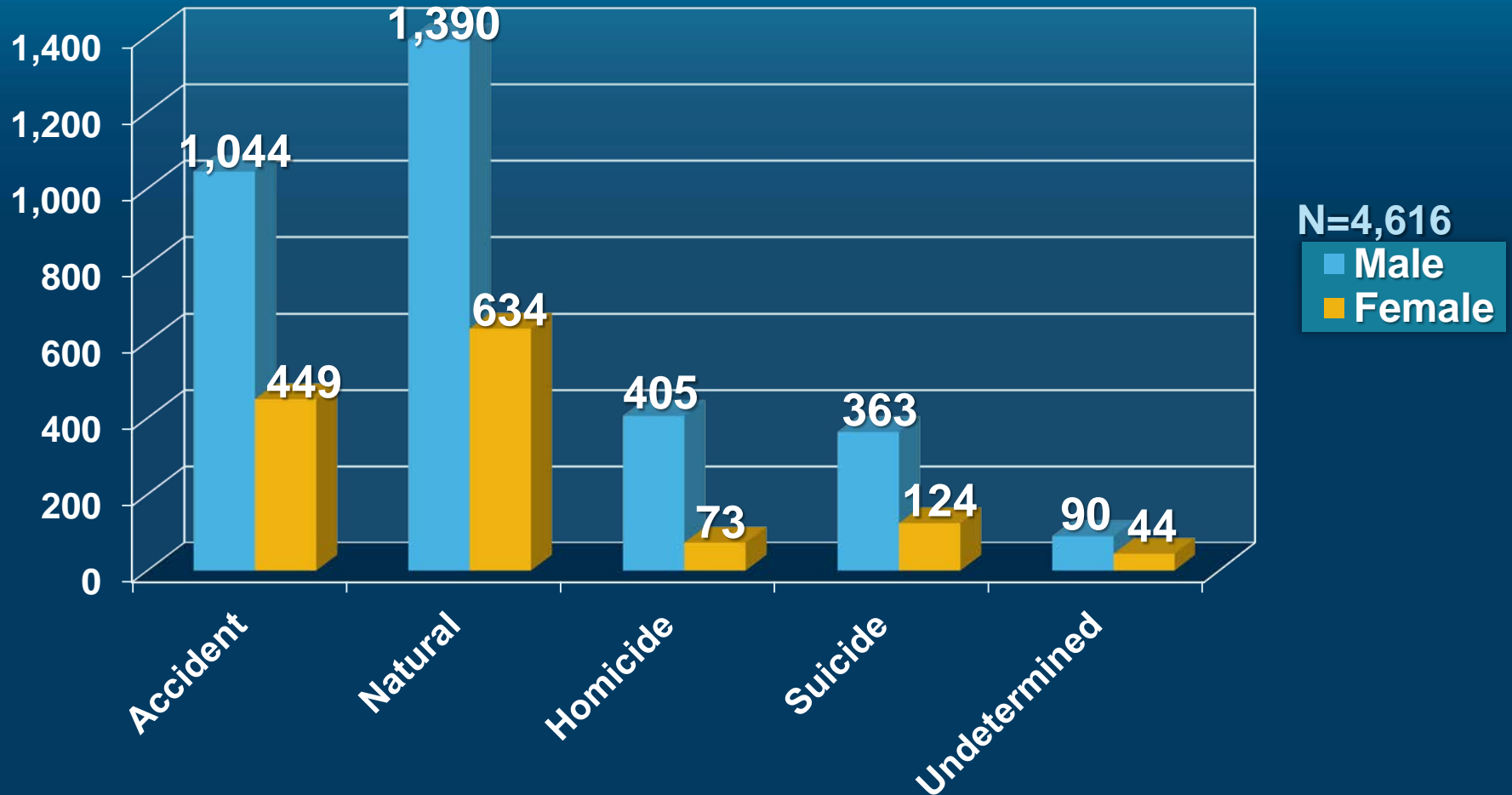
Natural: 341	Accident: 354
Suicide: 4	Fetal: 2
Undetermined: 3	



- One autopsy case and one external case were not eligible for a death certificate and were not assigned a manner.



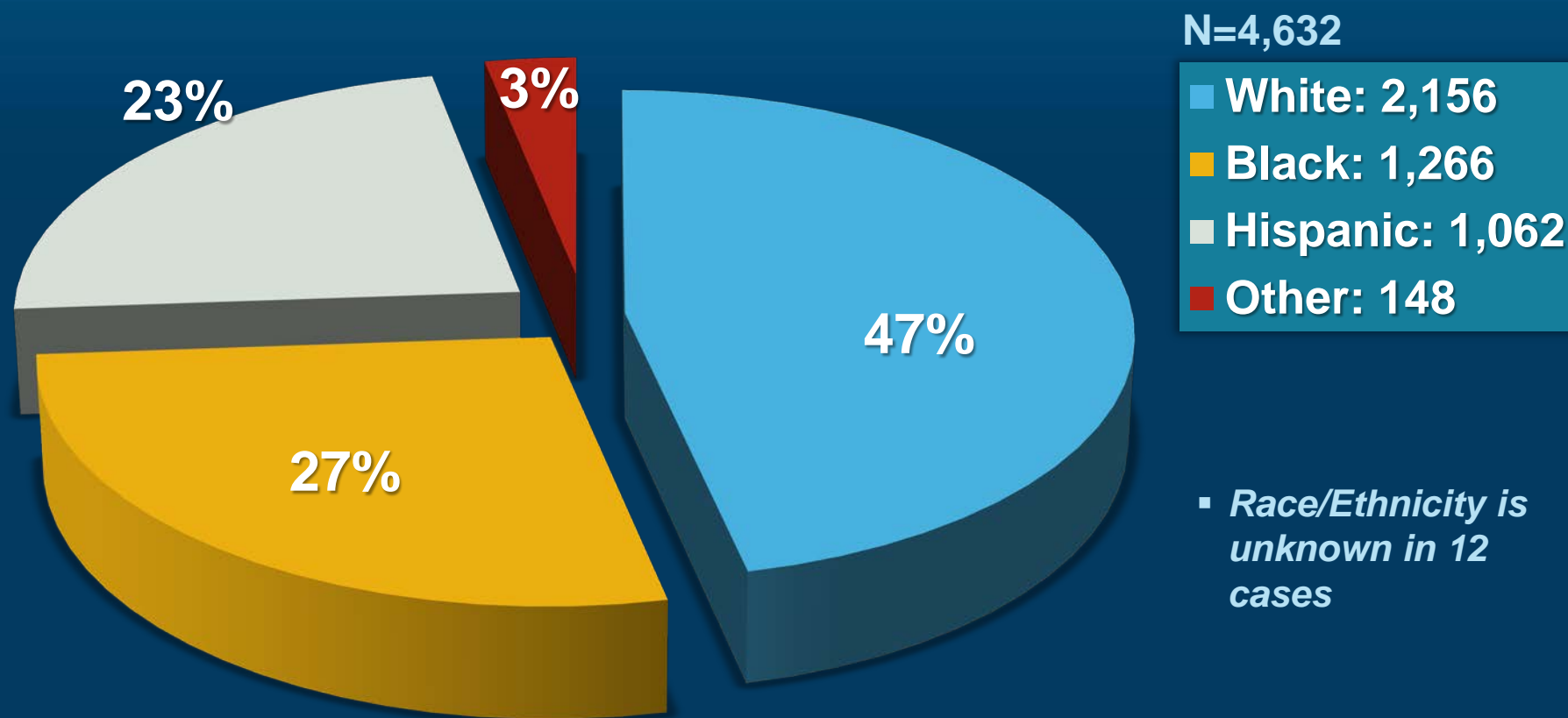
Manner of Death Stratified by Sex



- Does not include Fetal Manner of Death for 17 cases
- Sex is unknown for 11 cases

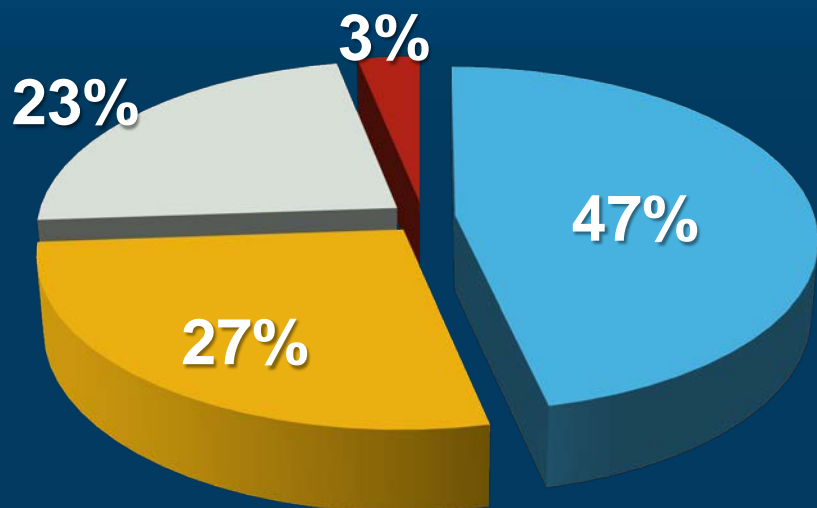


Race/Ethnicity Components of ML Cases

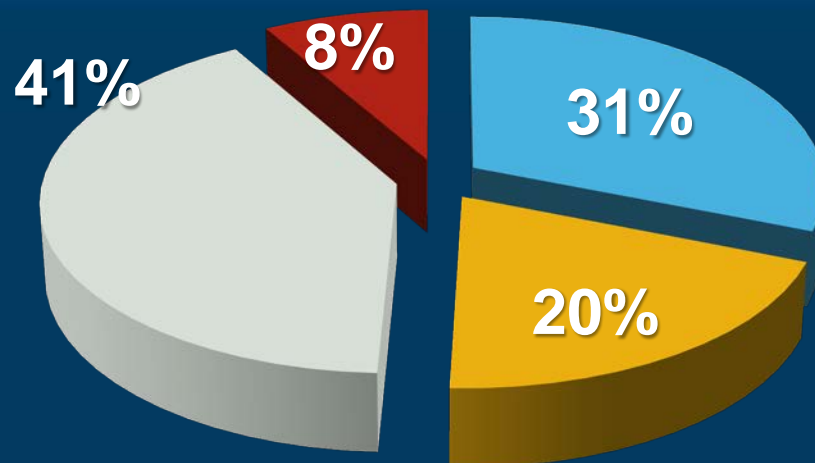


Demographic Data on Race/Ethnicity HCIFS Compared to Harris County Population

HCIFS Decedent Population*



Harris County



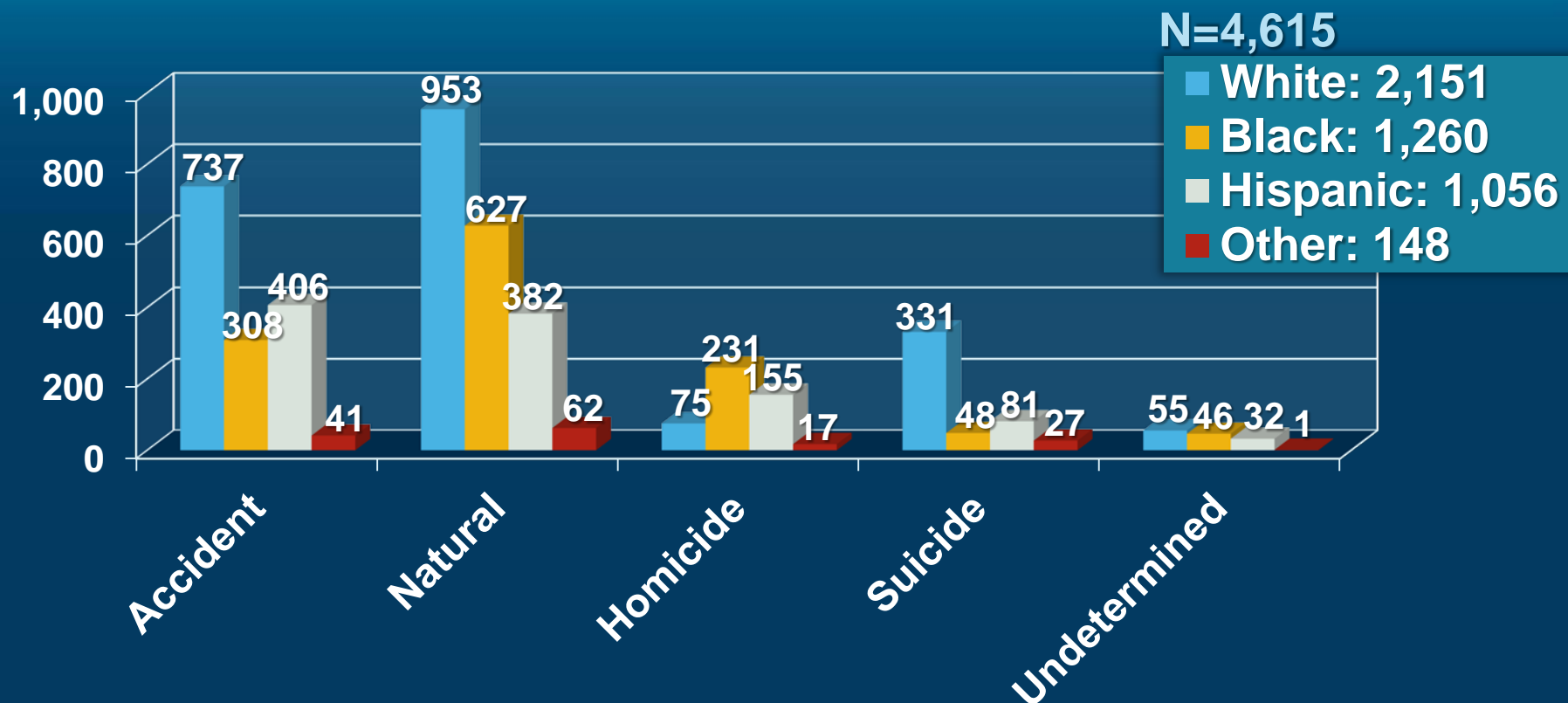
■ White ■ Black ■ Hispanic ■ Other

- Based on Harris County demographics, White and Black individuals are over-represented in the HCIFS caseload
- HCIFS decedent population, N=4,632, excludes unknown race/ethnicity*
- Harris County population, N=4,538,028, estimated

2015 population data are provided
by the United States Census Bureau



ML Cases by Manner and Race/Ethnicity



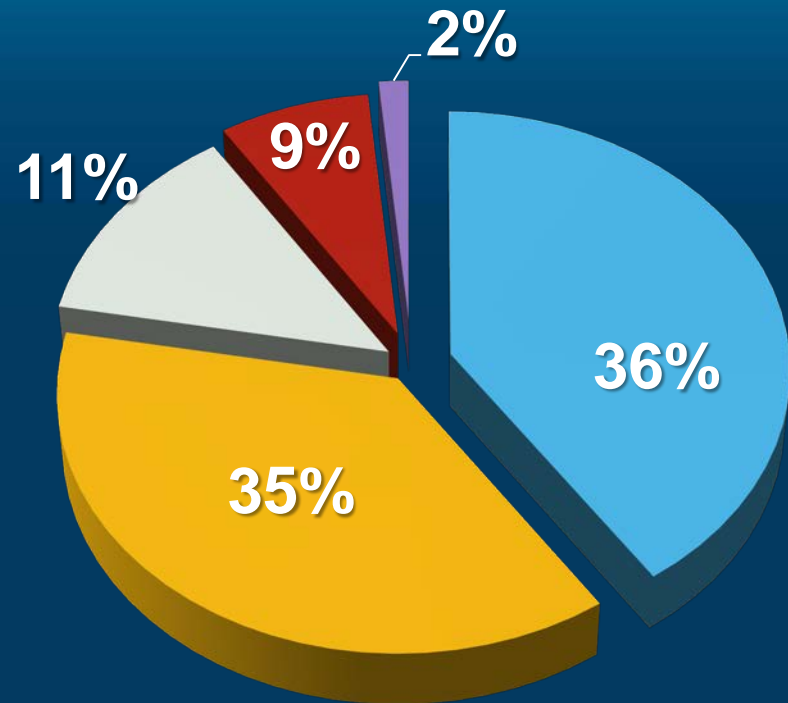
- Based on Harris County demographics, Black individuals are over-represented in homicide deaths
- Does not include Fetal Manner of Death for 17 cases
- Excludes 12 individuals of unknown race/ethnicity



Infant/Fetal Deaths

- **131** infant/fetal death cases
(aged less than 1 year)
- **53** cases of Undetermined Manner
 - **28** were classified as co-sleeping
- **23** of the Natural deaths, were SIDS cases

Approximately 78,000 live births were registered in Harris County in 2015



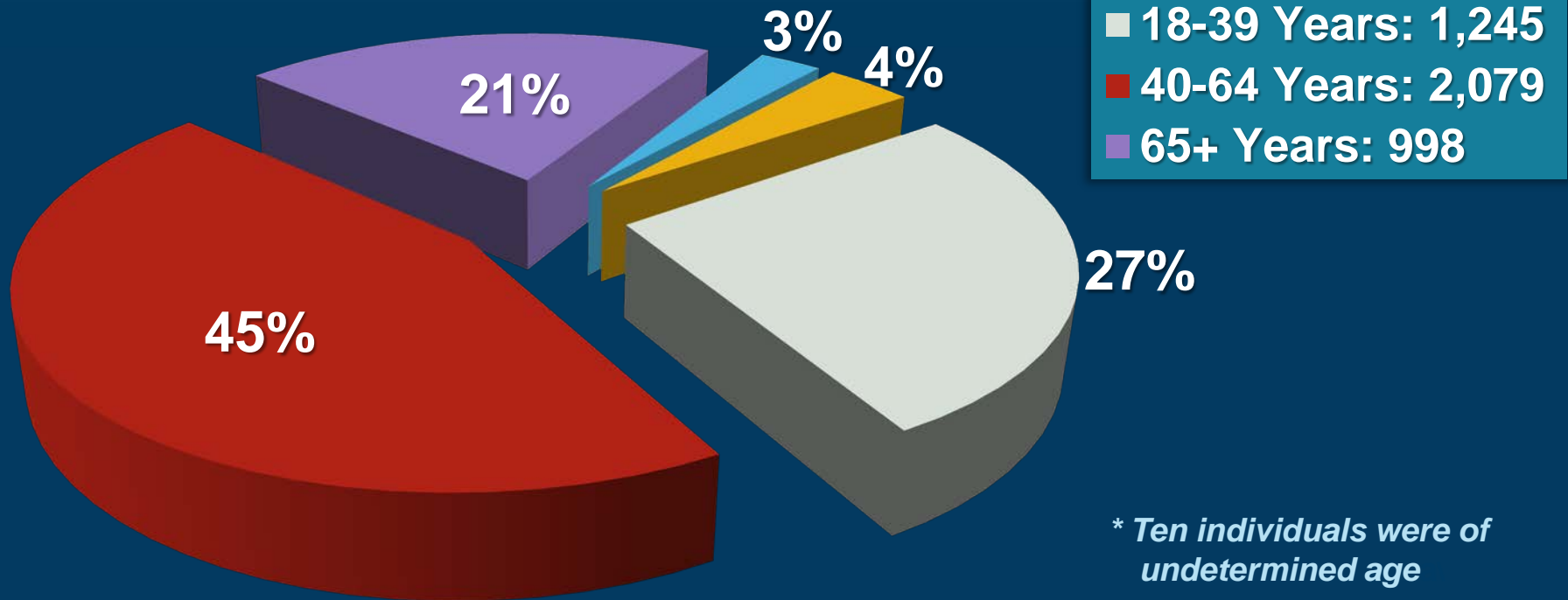
N=131

- Undetermined: 53
- Natural: 49
- Fetal Manner: 17
- Accident: 10
- Homicide: 2



Age Categories Represented by Proportion

N=4,634*





Homicide Case Volume

2013 – 2015

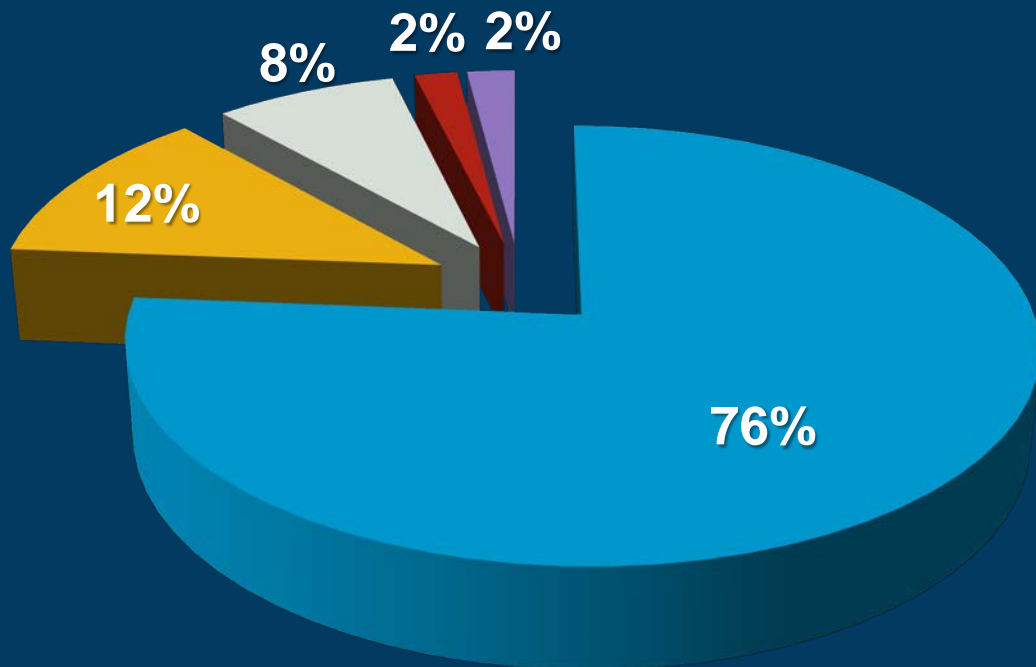
2013: 412 cases

2014: 387 cases

2015: 480 cases

Cause of Death in Homicide Cases

- **152** cases are linked to at least one other ML case
- **24%** increase in homicide cases from 2014 to 2015
- **23** homicide cases are associated with domestic violence
- **17** homicide deaths occurred “while at work”



*N=480

Firearm:	376
Blunt Trauma:	60
Sharp Trauma:	38
Asphyxia/Strangulation:	9
Other:	10

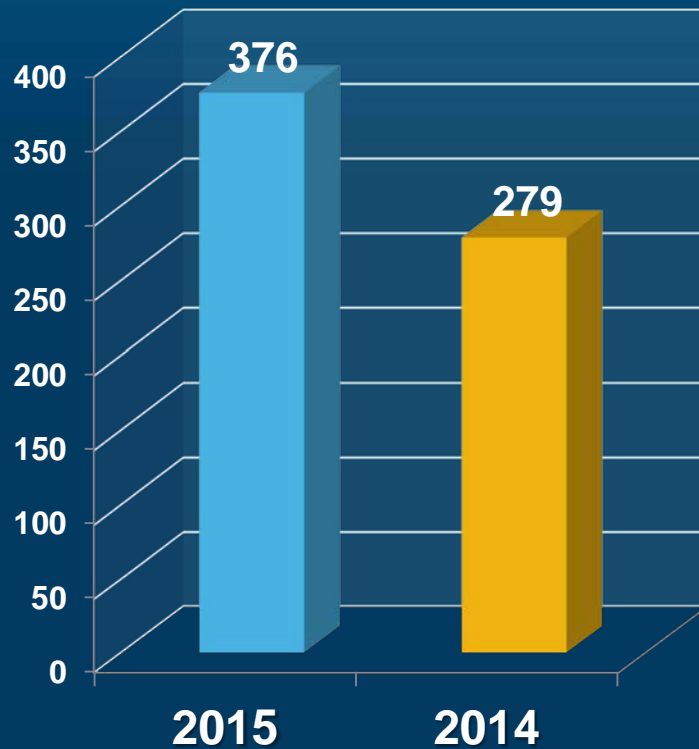
* *There is overlap in blunt and sharp force trauma cases (N=9) and an overlap in blunt force trauma and strangulation cases (N=3)*



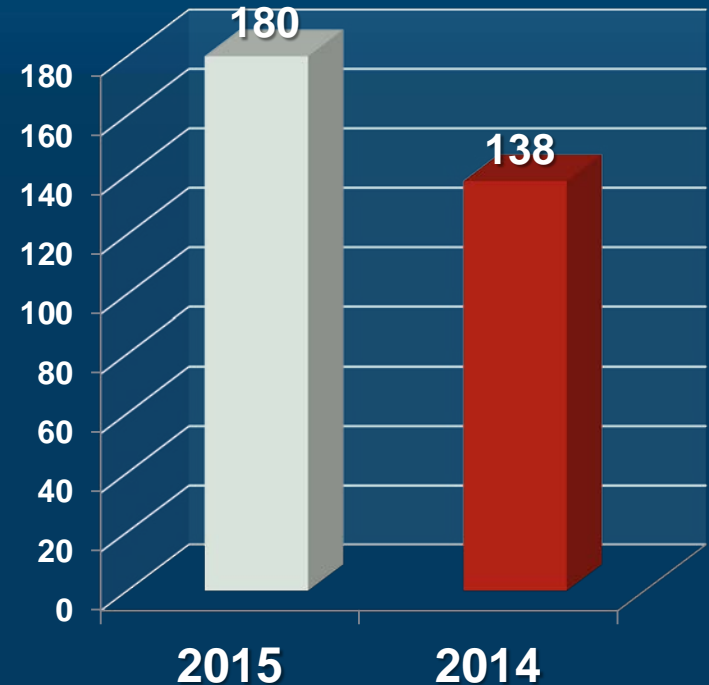
Homicide Deaths

Firearm Homicide Increase from 2014 to 2015

Firearm Homicides



Multiple Firearm Wounds



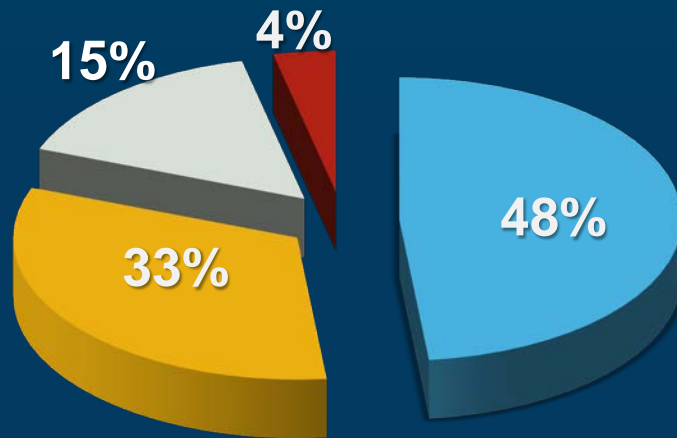
From 2014 to 2015:

- **35% increase in firearm homicides**
- **30% increase in multiple firearm wound homicides**



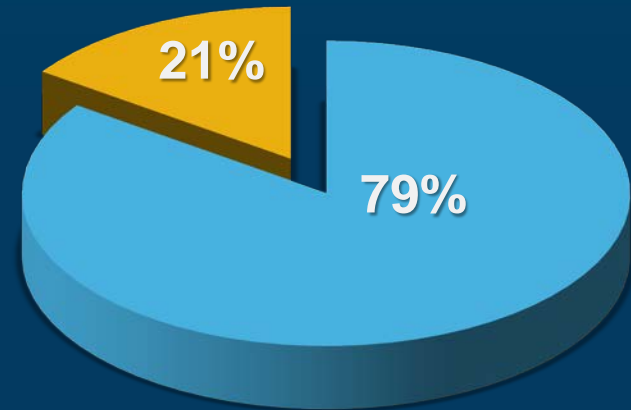
Homicide Deaths by Demographic Category

Race/Ethnicity



■ Black: 231 ■ Hispanic: 155
■ White: 75 ■ Other: 17

Sex



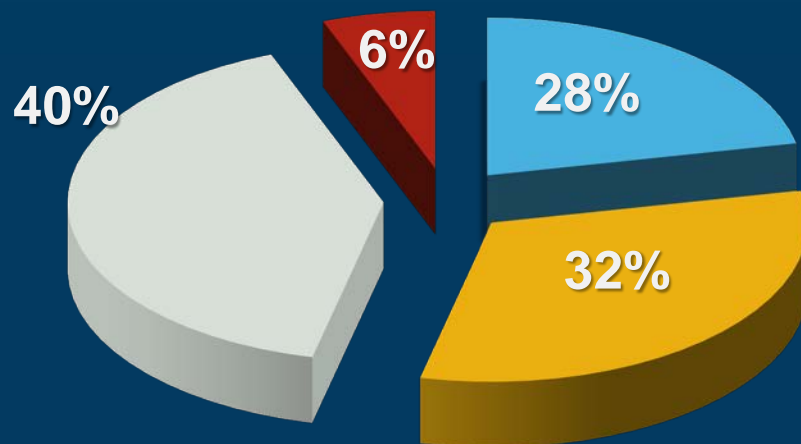
■ Male: 405 ■ Female: 73

- Based on Harris County demographics, Black individuals and males are over-represented in homicide deaths
- Two individuals are of unknown sex, and race/ethnicity



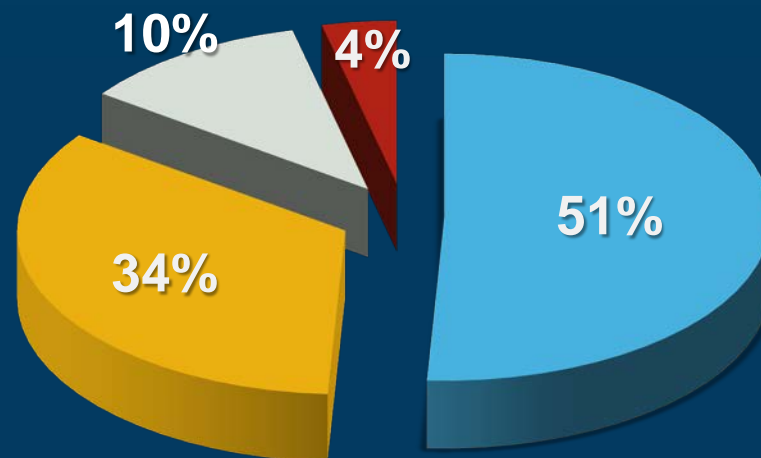
Homicide Deaths by Race/Ethnicity Harris County and the City of Houston

Homicides Occurring in Harris County; Outside of Houston



N=69

Homicides Occurring within the City of Houston



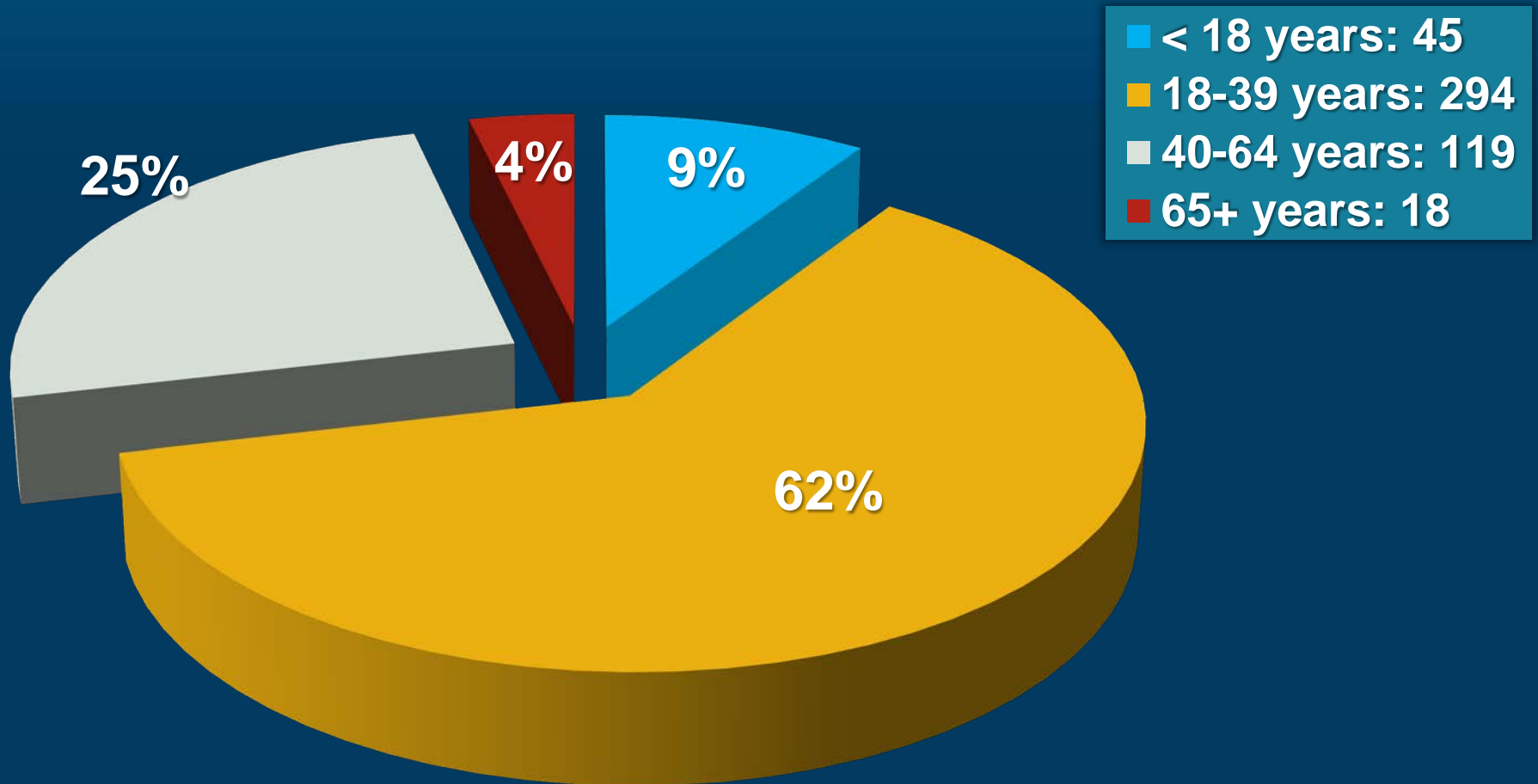
N=352

■ Black ■ Hispanic ■ White ■ Other

- **352** homicide cases were attributed to injury locations within the City of Houston based on the address of the place of injury and law enforcement case jurisdiction

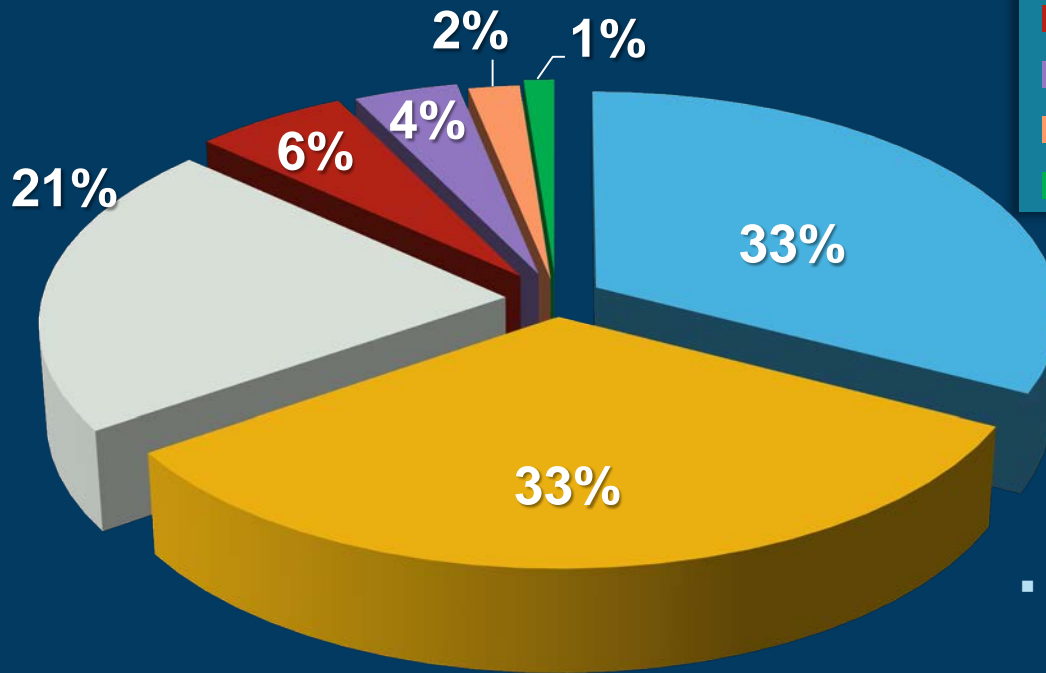


Homicide Deaths by Age Category



Most Common Causes of Accidental Death

N=1,493

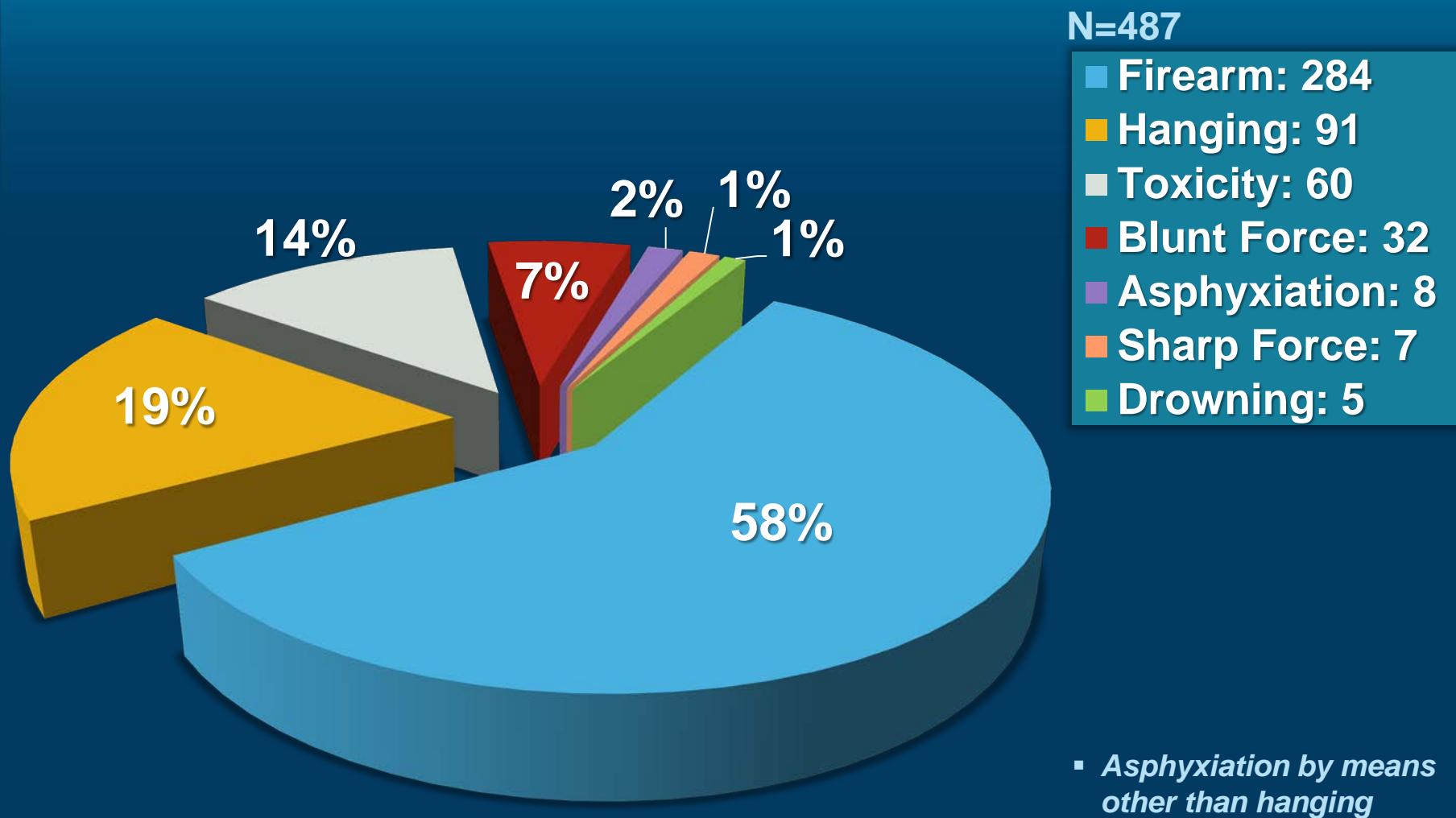


- Motor Vehicle: 488
- Toxicity: 488
- Non-MVC Blunt Trauma: 319
- Other: 89
- Drowning: 61
- Asphyxia: 30
- Fire: 18

- Other includes firearm injuries, sharp force injuries, hyperthermia, hypothermia, and medical misadventures

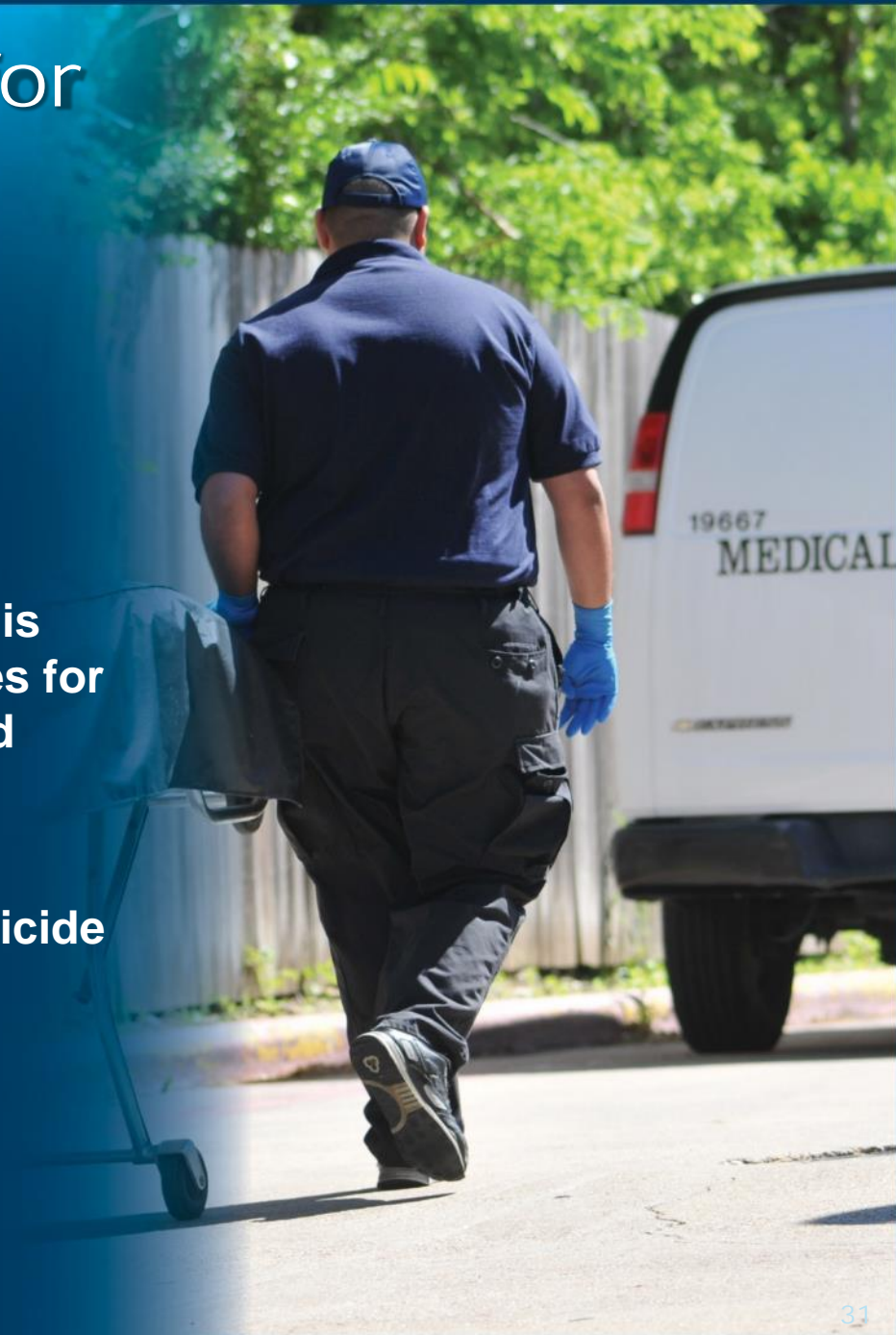


Causes of Death in Suicide Cases

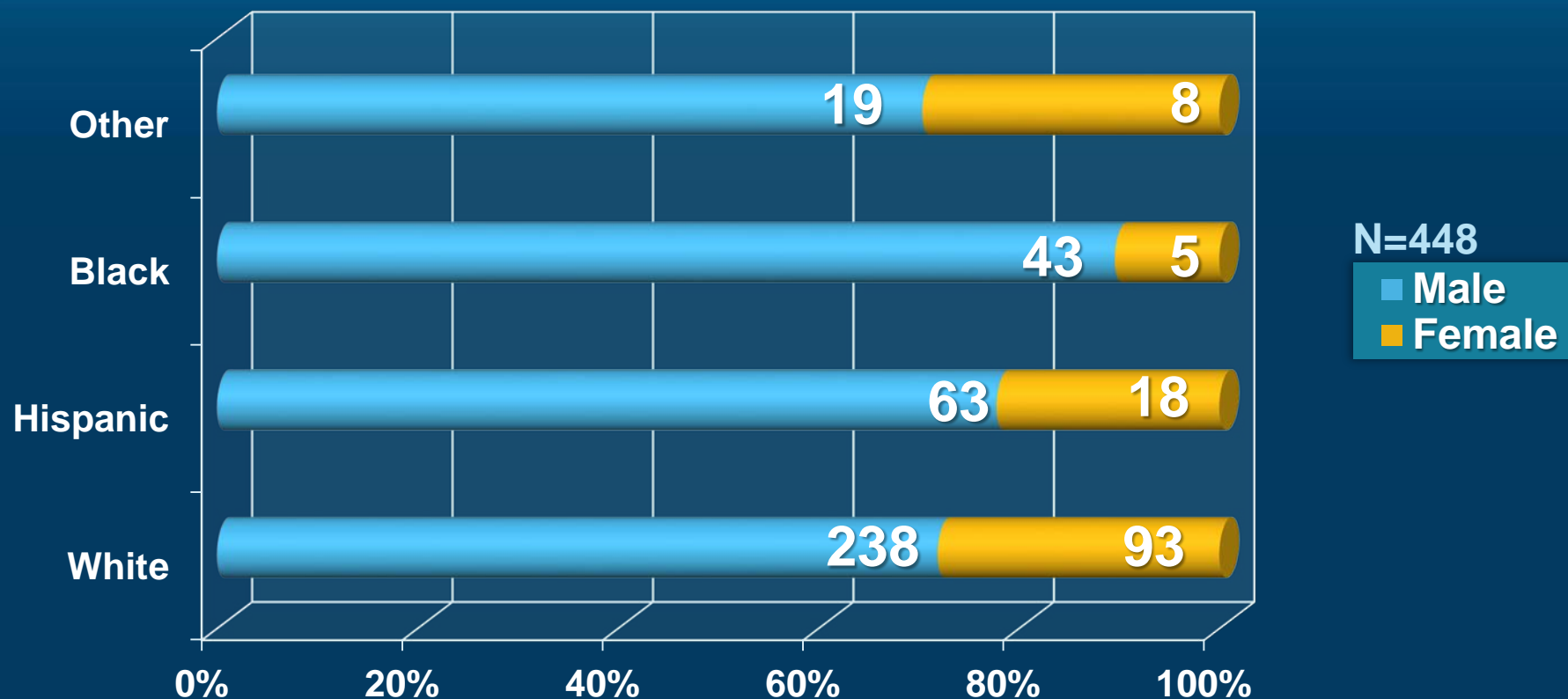


Demographic Data for Suicide Cases

- Male to female ratio is **3** to **1**
- Age range is **13** to **92** years
- The number of White suicide cases is more than twice the number of cases for all other races/ ethnicities combined (**331** compared to **156**)
- Number of companion Suicide/Homicide cases:
 - 2013: 5
 - 2014: 5
 - **2015: 15**



Suicide Cases Stratified by Sex & Race/Ethnicity

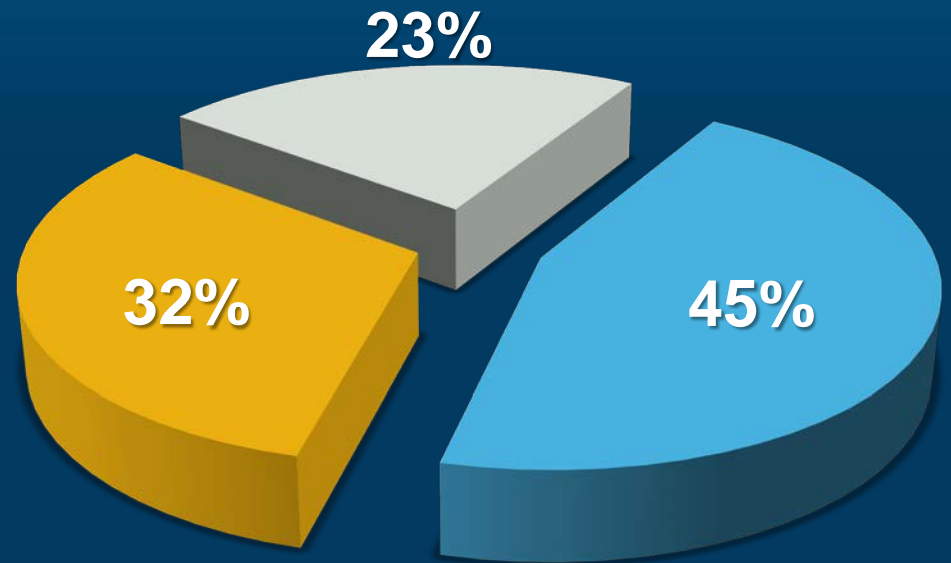


- *Based on Harris County demographics, White males are over-represented in cases of suicide*



Motor Vehicle Crash (MVC) Death Cases

- MVC fatalities include **19** children ranging in age from 7 days to 12 years
- **5** children were pedestrians, 21 months to 6 years of age
- **24%** of driver fatalities (**56**) were under 25 years of age
- From February 1 to the end of 2015, **22** stranded motorists were hit on the side of the road



N=488

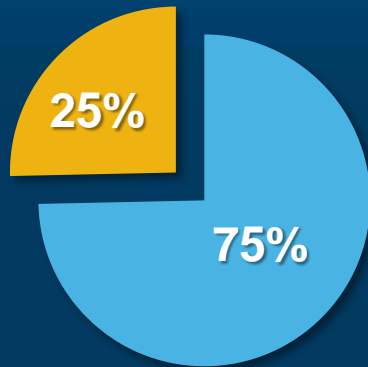
- Driver: 221
- Passenger or Unknown Position: 154
- Pedestrian: 113



MVC Sex and Age Distributions

The youngest driver fatality was 16; the oldest 88

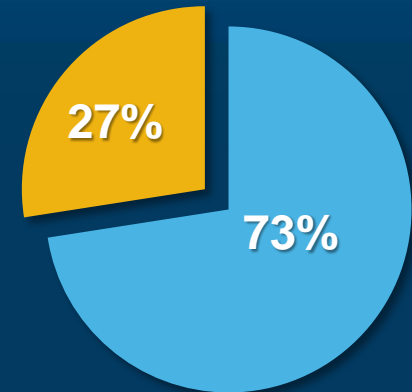
Driver Sex Distribution



N=221 Drivers

■ Male Drivers: 165
■ Female Drivers: 56

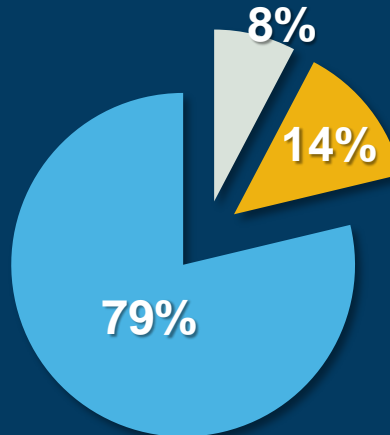
Sex Distribution all MVC



N=488

■ Males: 354
■ Females: 134

Proportion of drivers who were teens or senior citizens

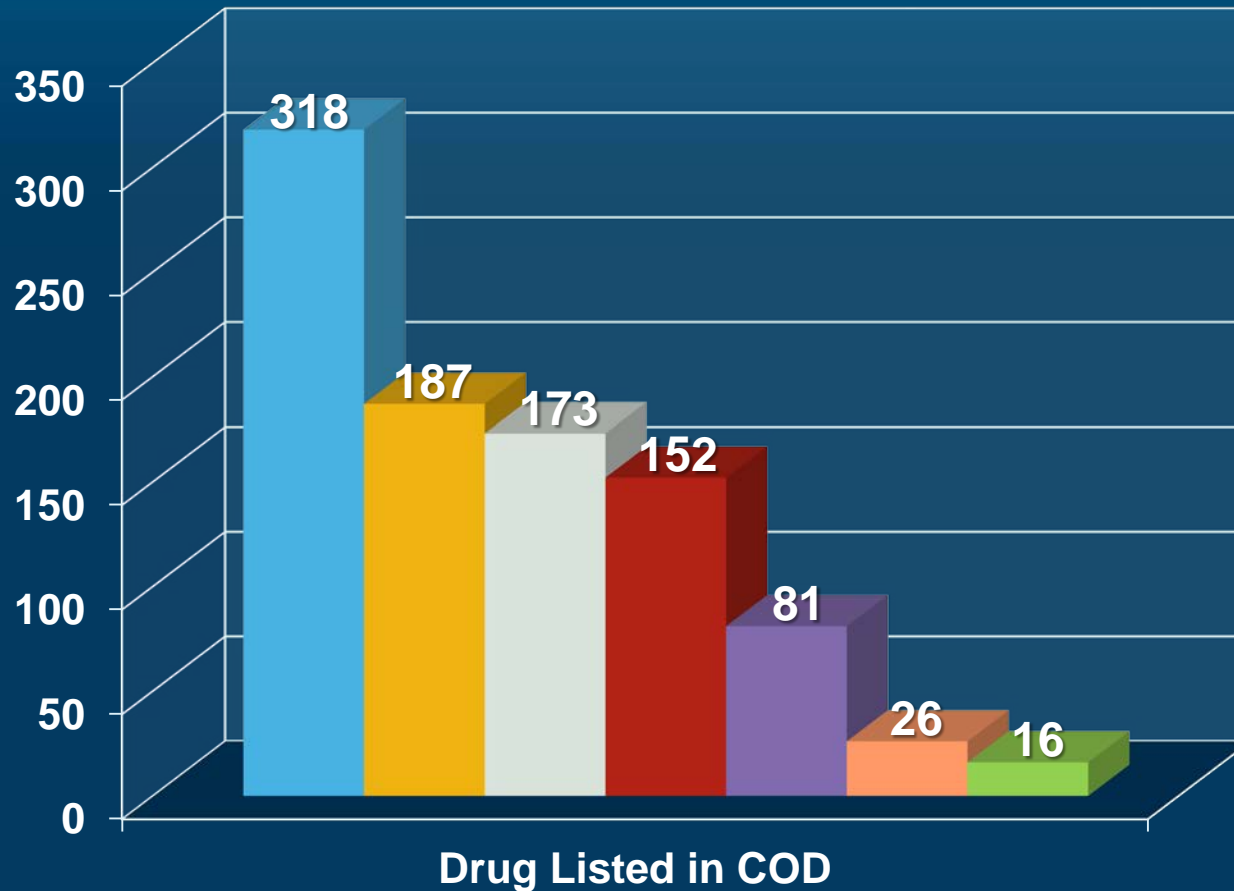


N=221 Drivers

■ 16 to 19 years: 17
■ 65+ years: 30
■ Other Ages: 174



Common Drugs Listed in Cause of Death



N=550

- Opioids
- Benzodiazepines
- Cocaine
- Ethanol
- Amphetamine/Meth
- Carisoprodol
- Acetaminophen

- *Drugs may be combined within a case*
- *These data do not reflect discrete cases*



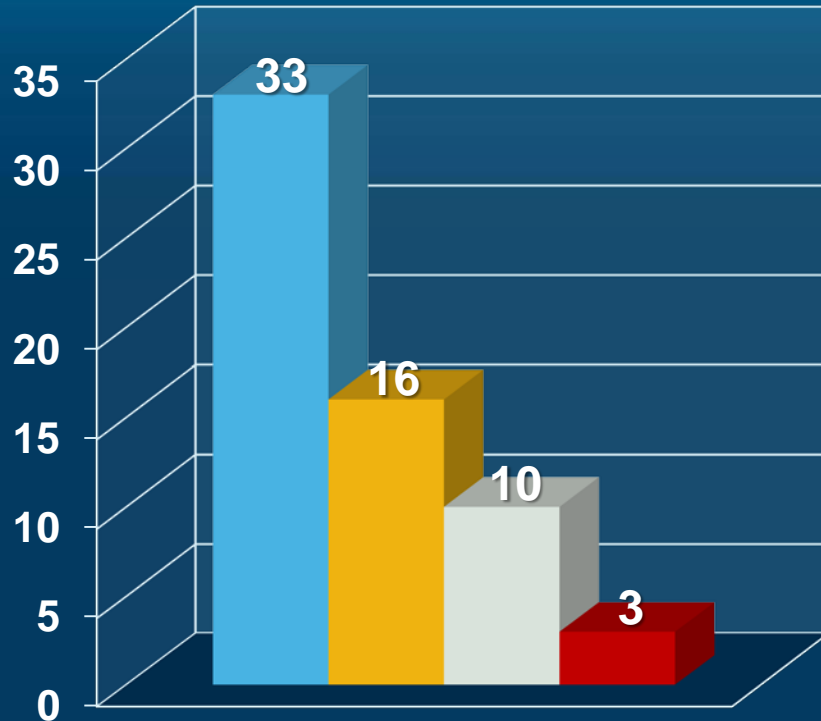
Cases of Accidental Drowning

- **62** total cases in 2015
(Excluding cases of submerged vehicles)
- Age range is **14** months to **91** years
 - Includes **10** young children aged 14 months to 9 years
- **48** of the drowning cases are males compared to **14** female cases



Cases of Accidental Drowning

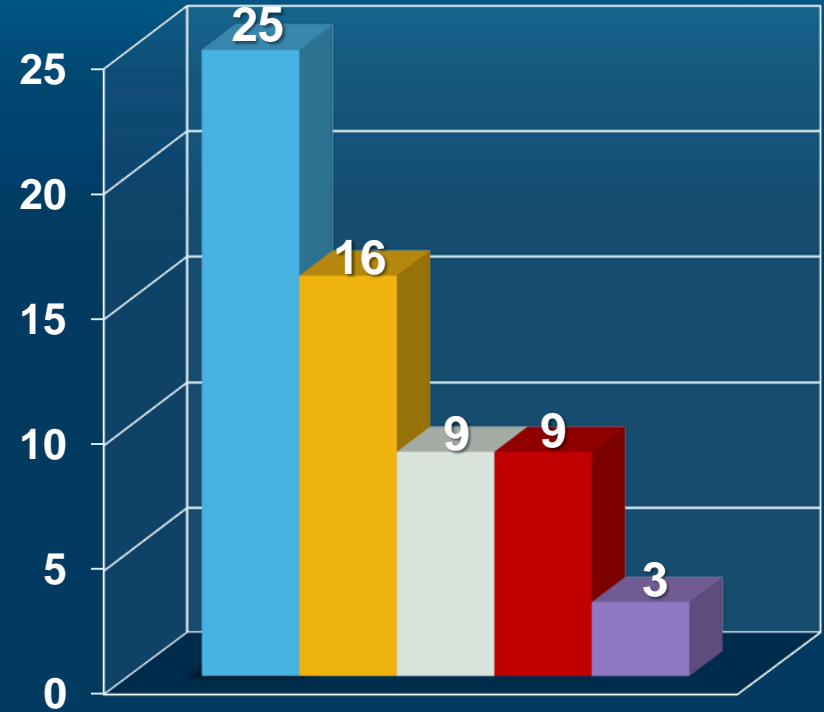
Race/Ethnicity



N=62

- White
- Hispanic
- Black
- Other

Type of Water

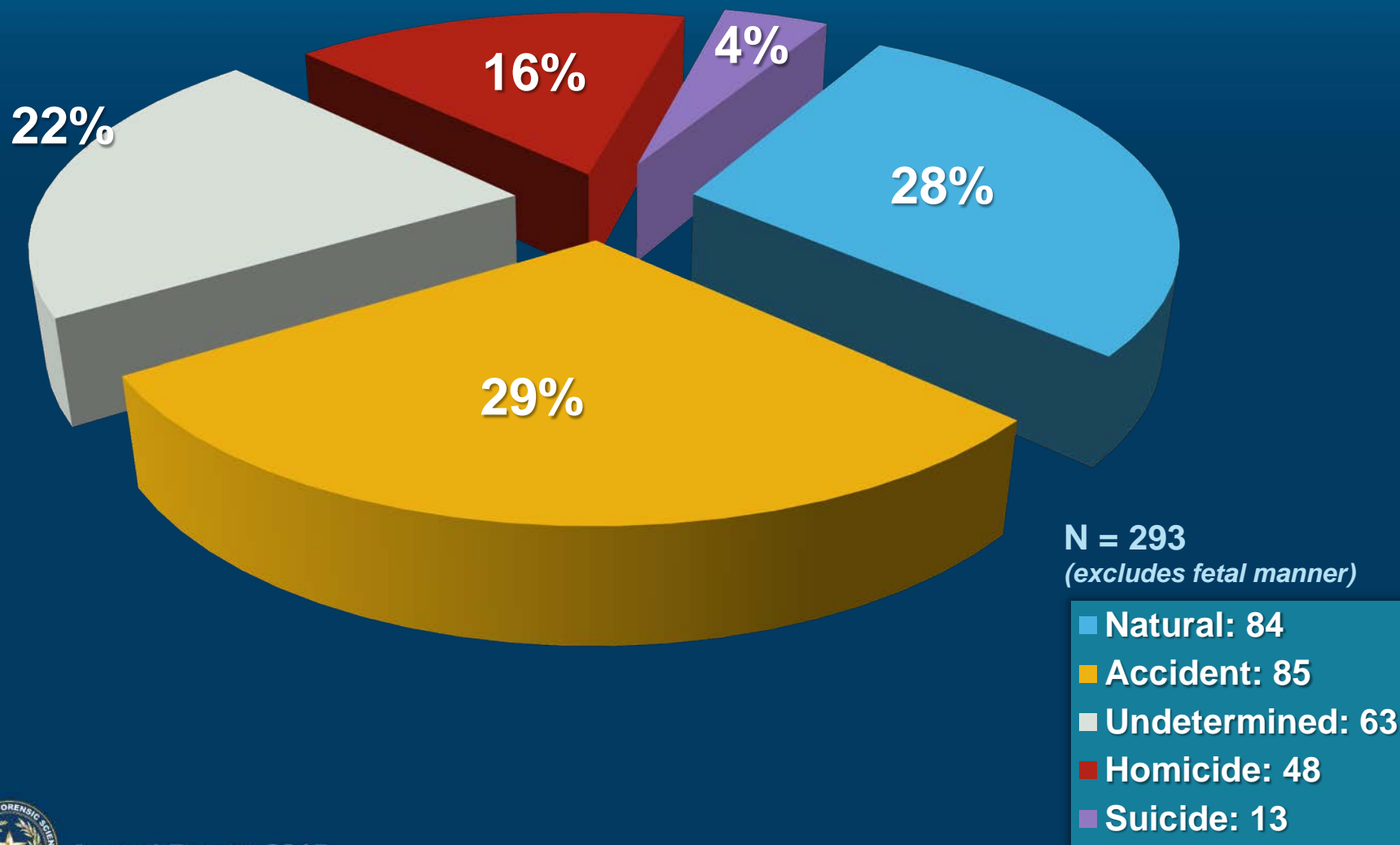


N=62

- Natural Water
- Bath Tub
- Residence Pool
- Ditch/Residential Basin
- Public Pool



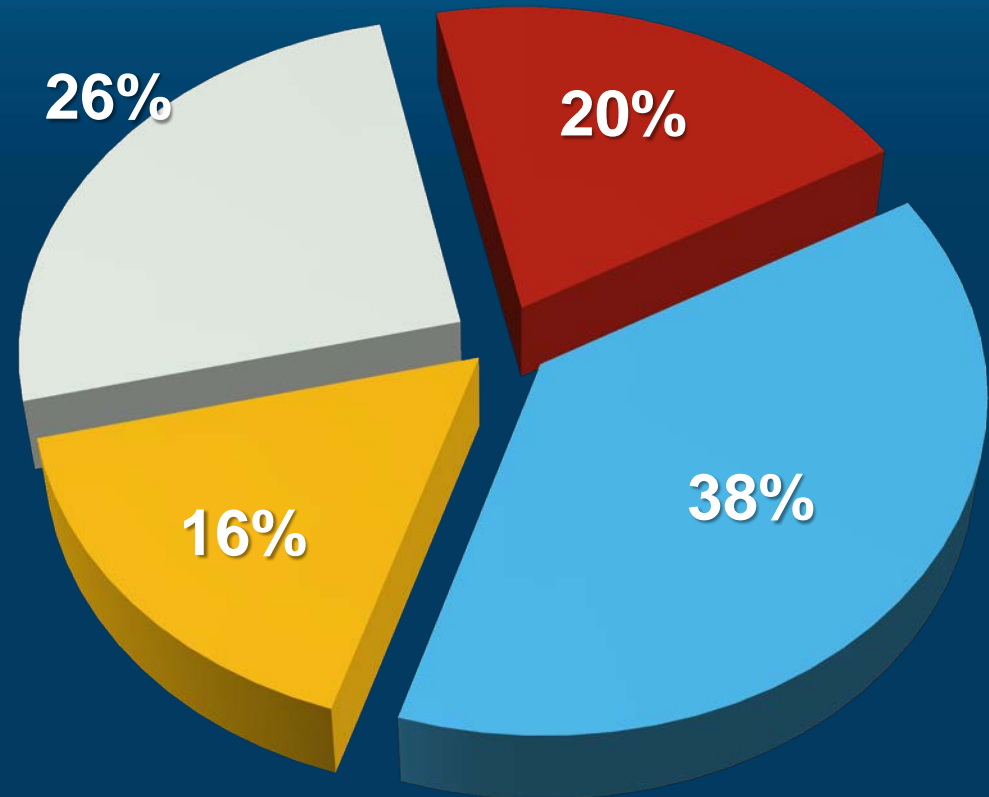
Manner of Death in Children (Aged 0-17 Years)



Toddler Deaths (Aged 1-4 Years)

Injury Deaths Include:

- 4 toddlers killed in MVC as passengers
- 4 toddlers drowned in accidents
- 14 Homicide cases
 - 8 male
 - 6 female



N=55 toddler death cases

■ Accident: 21

■ Natural: 9

■ Homicide: 14

■ Undetermined: 11



Top Five Injury Deaths of Children (Aged 0-17 Years)

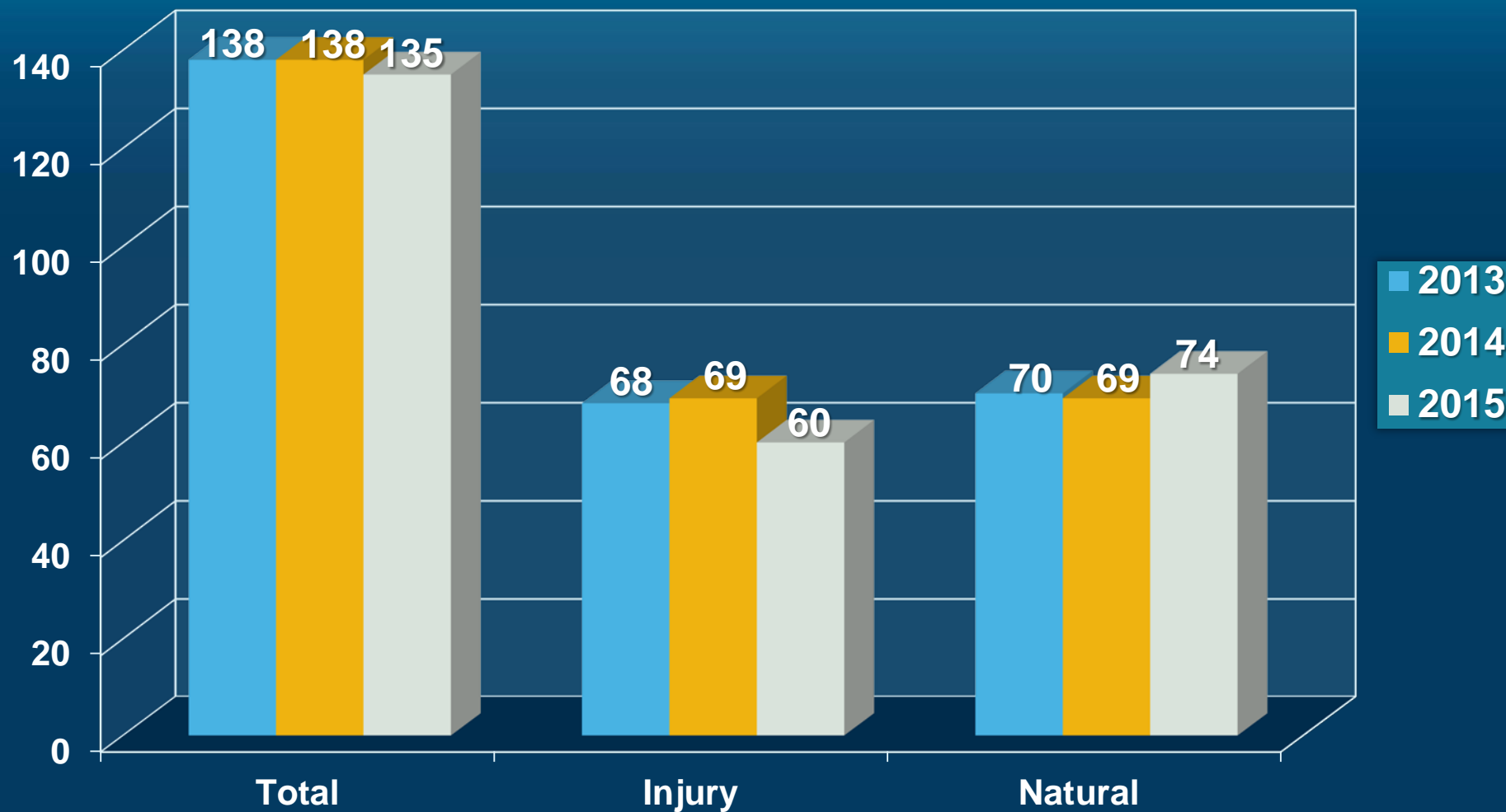
1. Motor vehicle crashes (40)
2. Firearm wounds (38)
3. Blunt force injury, not MVC (24)
4. Asphyxia/Hanging (15)
5. Drowning (12)



Homicide Deaths of Children (Aged 0-17 Years)



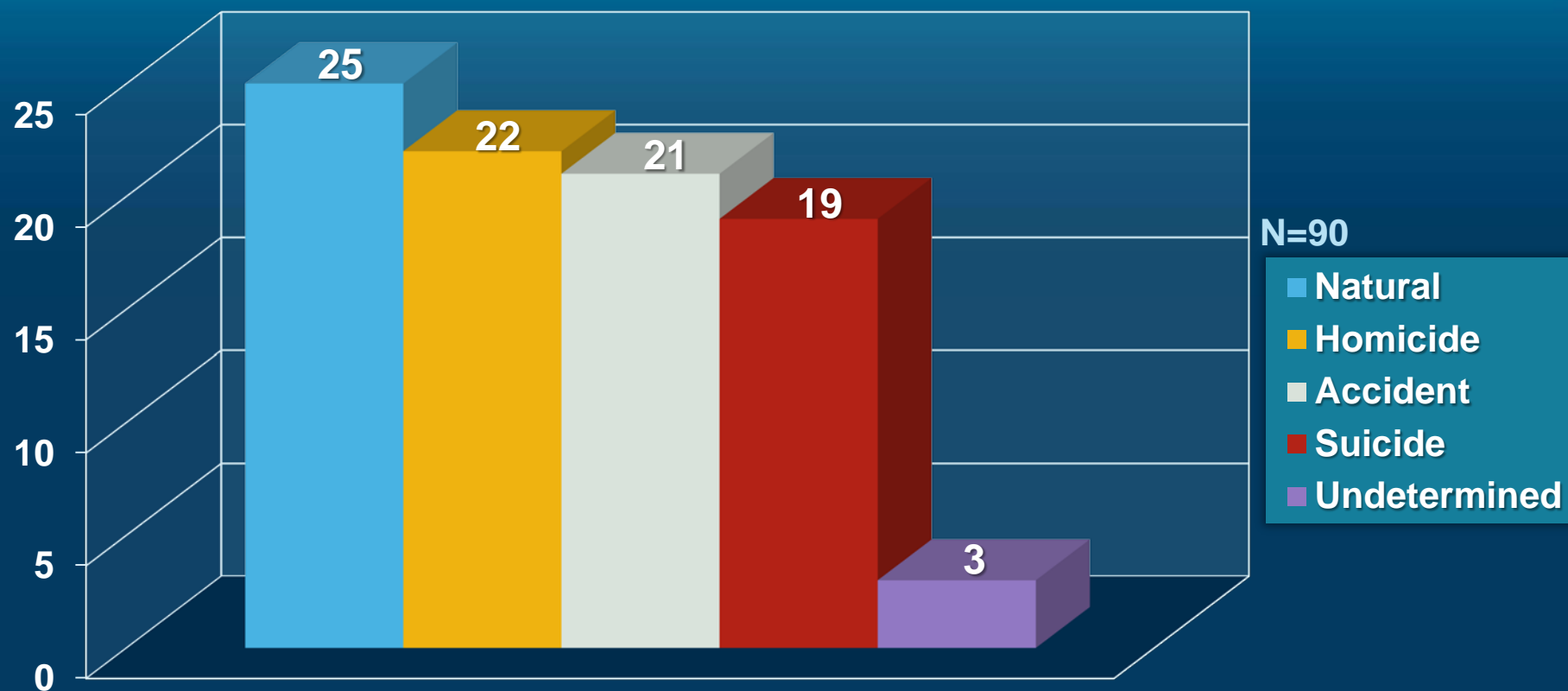
"While at Work" Deaths



One death in 2015 was Undetermined in manner



"In Custody" Deaths



HCIFS defines a death as "in custody" when a death occurs of any person who is under arrest or is in the process of being arrested, is en route to be incarcerated, or is incarcerated at a municipal or county jail, state prison, or other local or state correctional facility (including any juvenile facility)



Most Frequent Primary Causes of Natural Death

N=2,024 Natural Deaths

Hypertensive/Atherosclerotic Cardiovascular Disease
62% or 1,256 deaths in 2015

4% Embolus/Thromboembolus

4% Chronic Ethanolism

4% Other forms of cardiac death

3% Neoplasm

3% Diabetes Mellitus/Ketoacidosis

2% Seizure Disorders

2% Community-acquired Pneumonia

1% Gastrointestinal Disorders

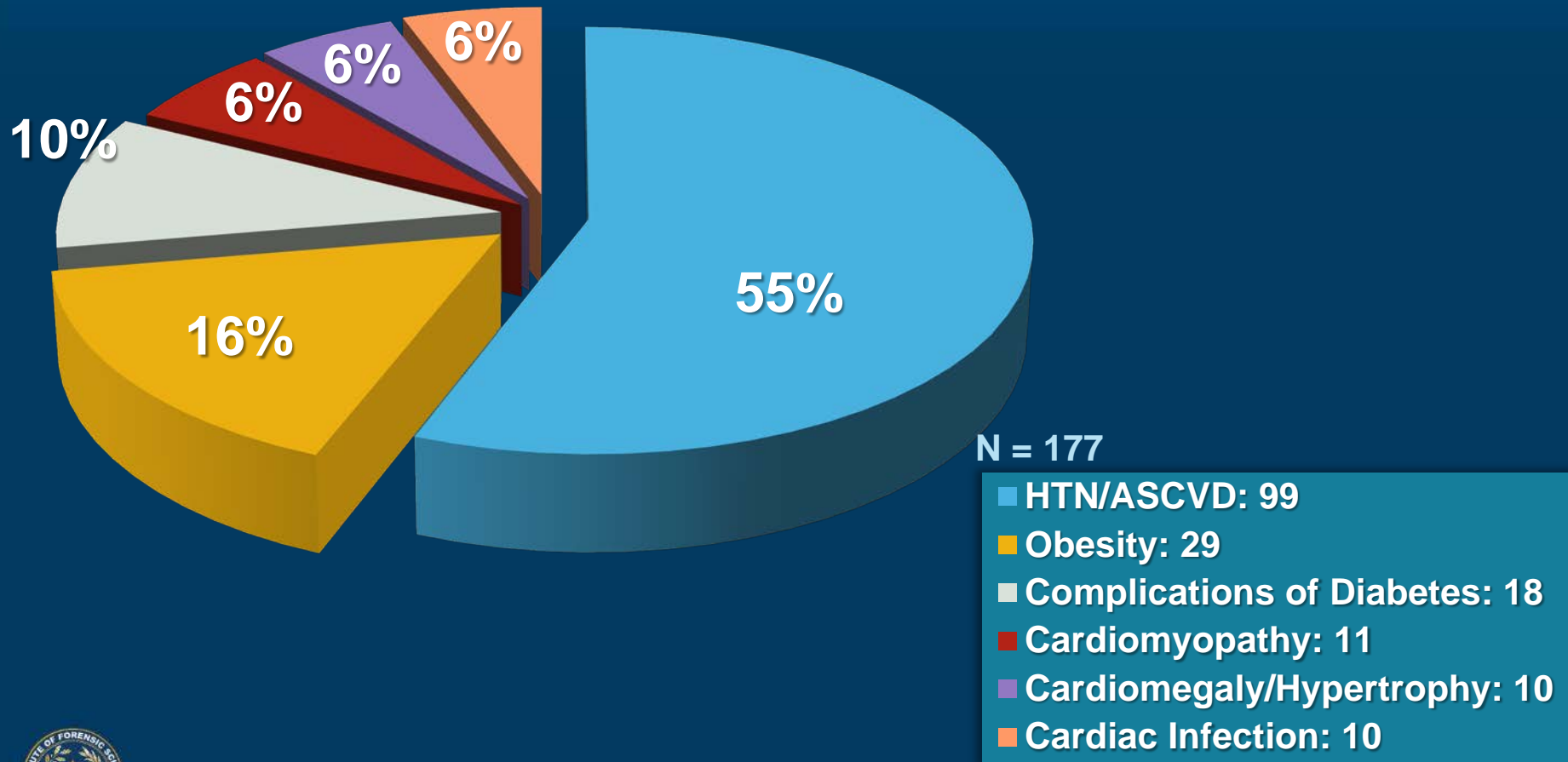
1% Hepatitis

Other causes of natural death (15%) include asthma, bacterial and viral infections (not pneumonia), congenital disorders and complications of HIV/AIDS



Cardiac Death in Young People

In 2015, **255** natural deaths of young people aged 16 to 40 years were investigated – The following disorders increasing the risk of cardiac death are listed in the primary cause of death



Diabetes and Obesity

- For **289** decedents, diabetes mellitus was listed in the primary cause (**79**) or the contributing cause (**299**) of death
 - **65%** were either overweight or obese (*Body Mass Index, BMI = 25+*)
- BMI was calculated for **4,099** decedents aged 13 years or older, at least 60” tall and weighed at least 100 pounds:
 - **1,413** (34%) were obese with a BMI of 30 or greater
 - **1,278** (31%) were overweight with a BMI between 25 and 29
 - The greatest BMI was **92** (607 lbs./68” tall)
 - **24** decedents weighed more than 400 lbs.
 - **1,408** (34%) of decedents were of normal weight or underweight





Quality Management Division

A separate division of HCIFS

Ensures that services provided by the Institute are **reliable** and of **high quality**

Responsibilities

Maintaining a **documented quality management system** that meets or exceeds all accreditation and county requirements

Facilitating **quality improvements** within each division of HCIFS

Monitoring the continued use of best practices and ensuring the reliability of records released for discovery



Accomplishments in 2015

686

standard operating procedures
reviewed

139

proficiency tests administered

407

court orders processed

10

internal audits conducted

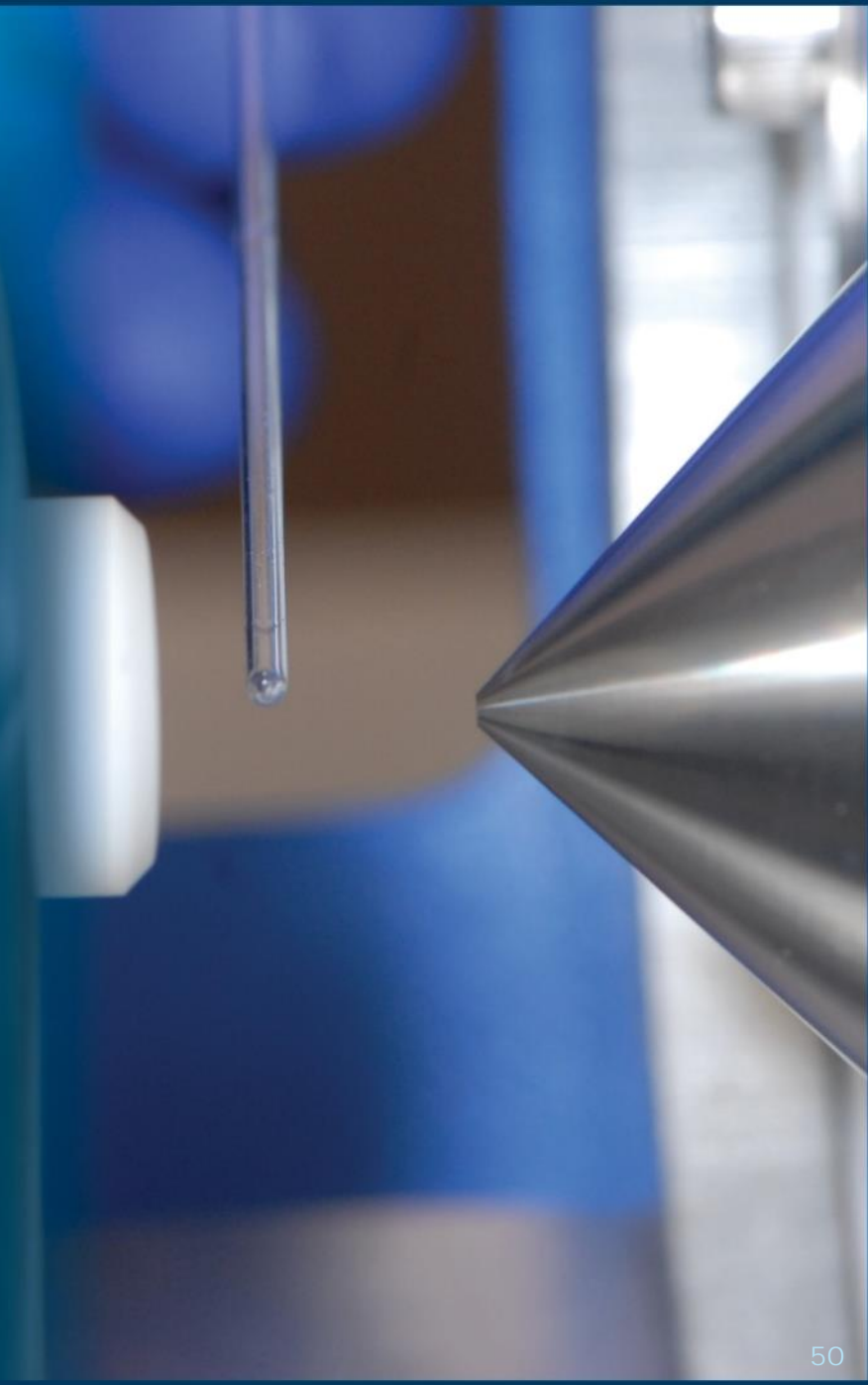
51

internal training sessions
provided



Crime Laboratory Service

Provides **analytical testing services** to the HCIFS Medical Examiner Service, the justice system and law enforcement agencies in Harris and surrounding counties





Crime Laboratory Service Statistical Summary

- **Cases received: 25,471**
(Approximately a **10% increase** from 2014)
- **Cases completed: 21,027**
- **Total Number of submitting agencies: 80**
- **40% of laboratory personnel have a professional certification**
 - **9** analysts certified by the American Board of Forensic Toxicology
 - **33** analysts certified by the American Board of Criminalistics

Crime Laboratory Service:

Drug
Chemistry
Laboratory





Drug Chemistry Laboratory

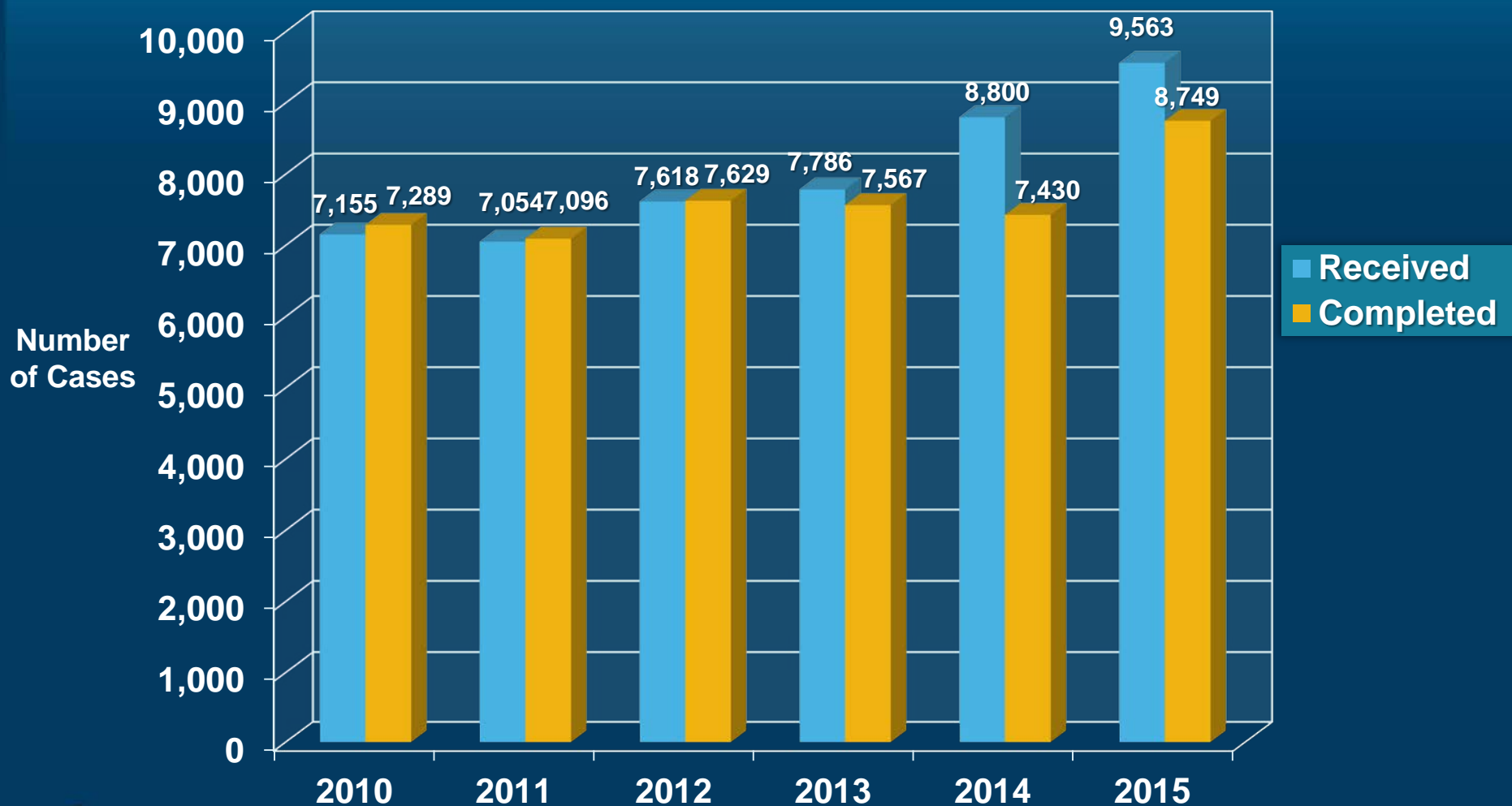
In accordance with Texas state statutes, identifies **confiscated, illegal and dangerous drugs**, including:

- Plant material
- Powders, tablets, liquids
- Drug paraphernalia

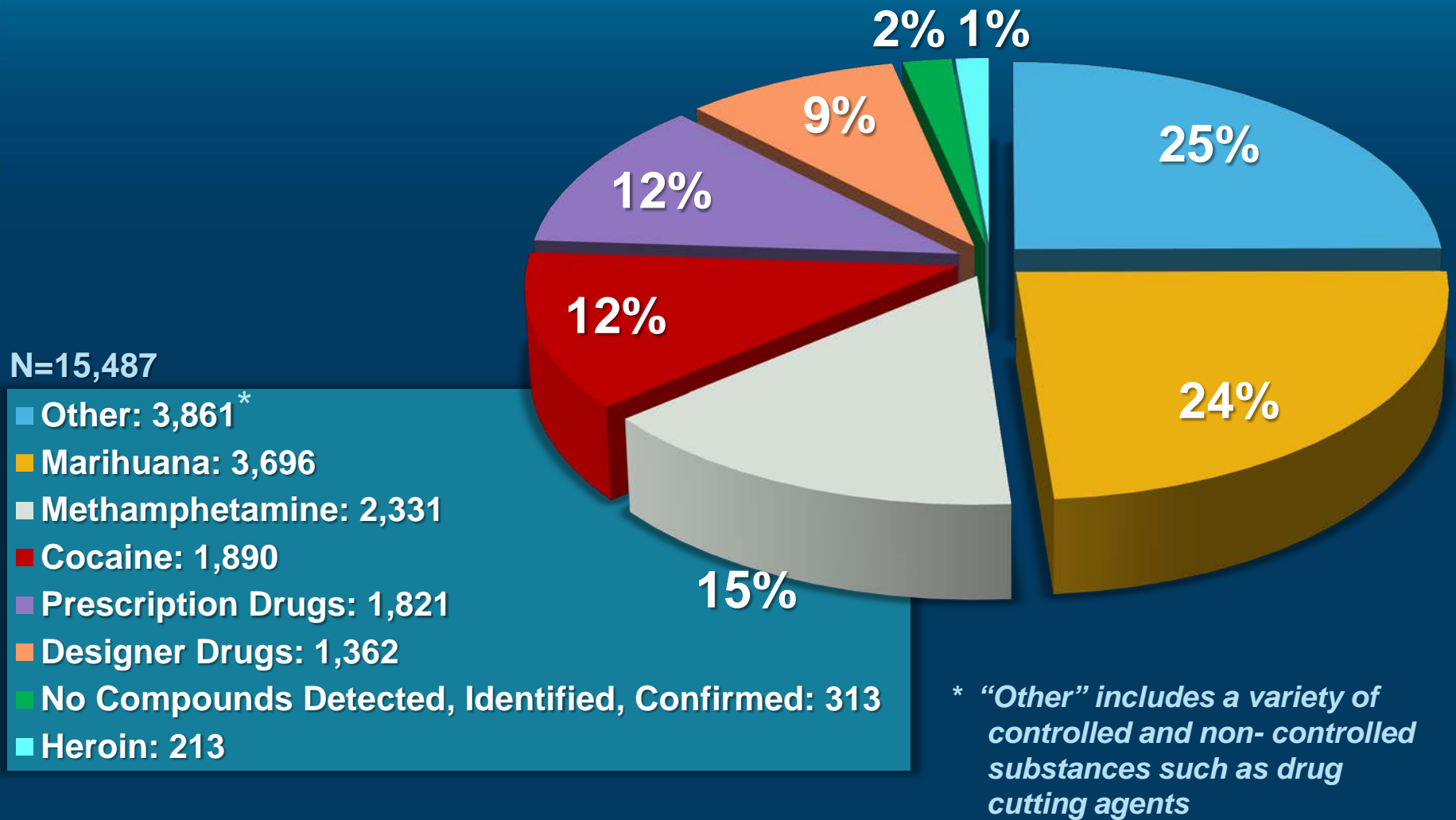
The laboratory also develops methods to **identify new “designer” drugs** including:

- Stimulants known as “Bath Salts”
- Synthetic cannabinoids such as “Spice” or “K2”
- NBOMe hallucinogens

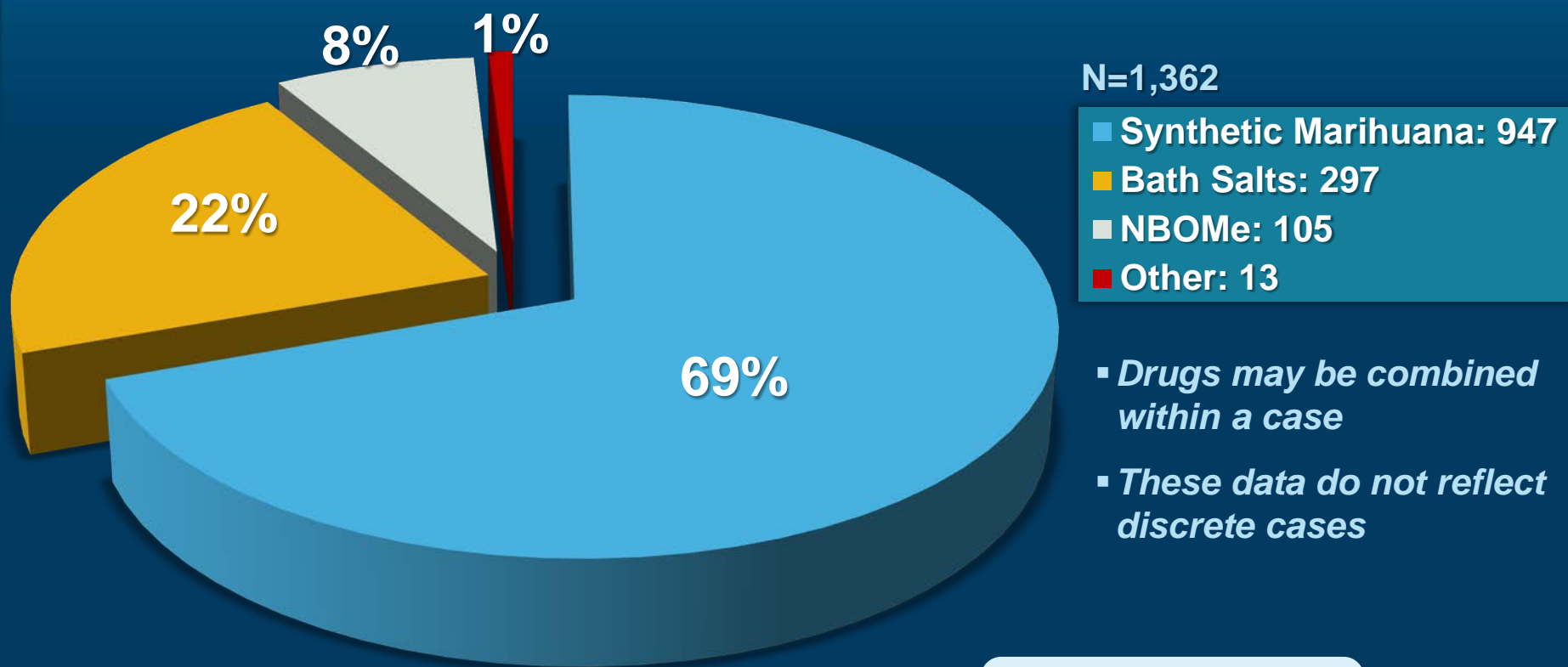
Cases Received & Completed



Test Results – 2015



Breakdown of Designer Drugs Test Results – 2015

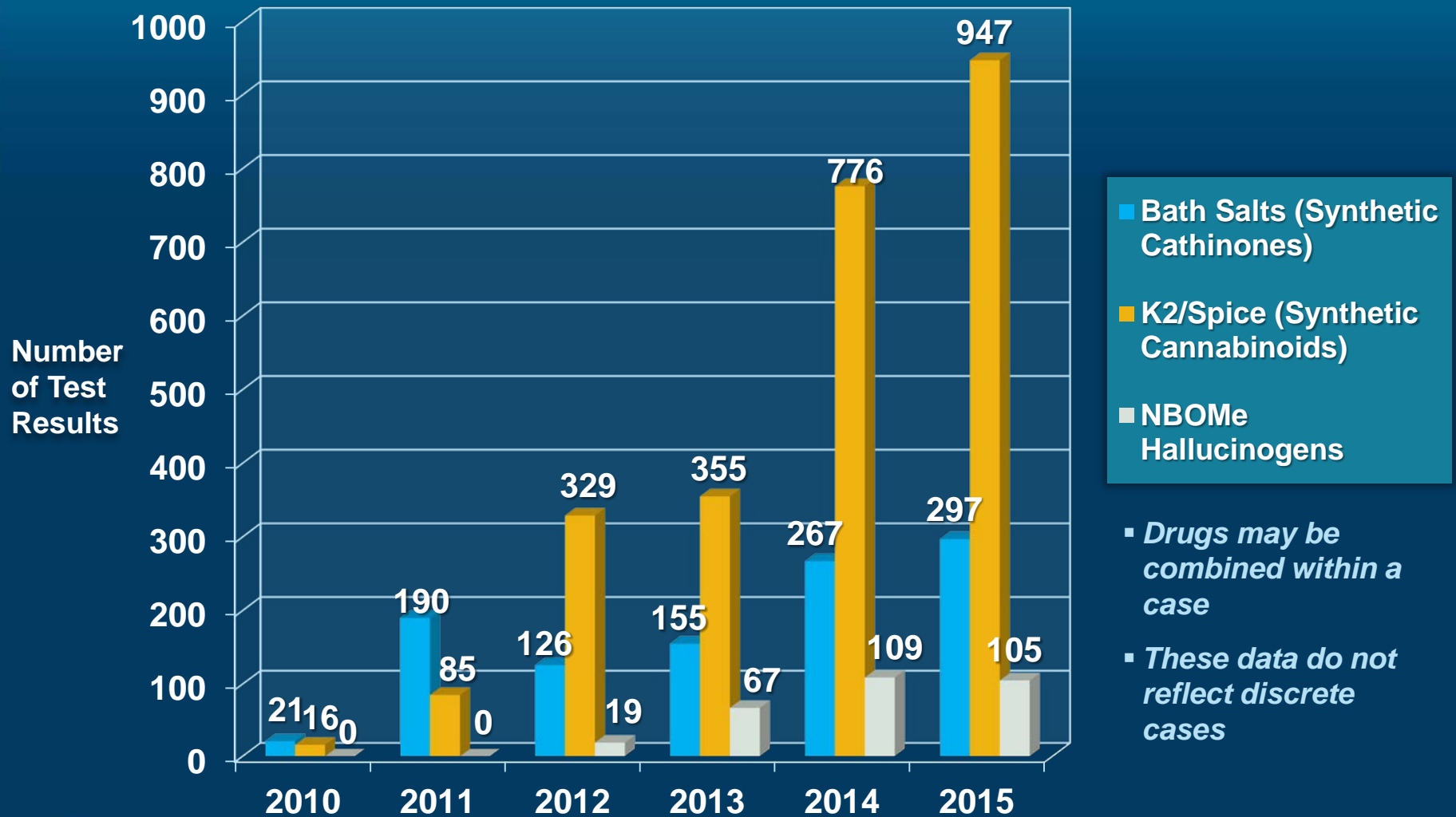


- *Drugs may be combined within a case*
- *These data do not reflect discrete cases*

"Other" drugs include methoxetamine and 2C-X hallucinogens



Designer Drug Trends





Crime Laboratory Service:

Forensic
Genetics
Laboratory

Forensic Genetics Laboratory

Conducts DNA testing primarily for:

- Law enforcement agencies
- HCIFS medical examiners
- HCIFS forensic anthropologists to assist in positively identifying decedents

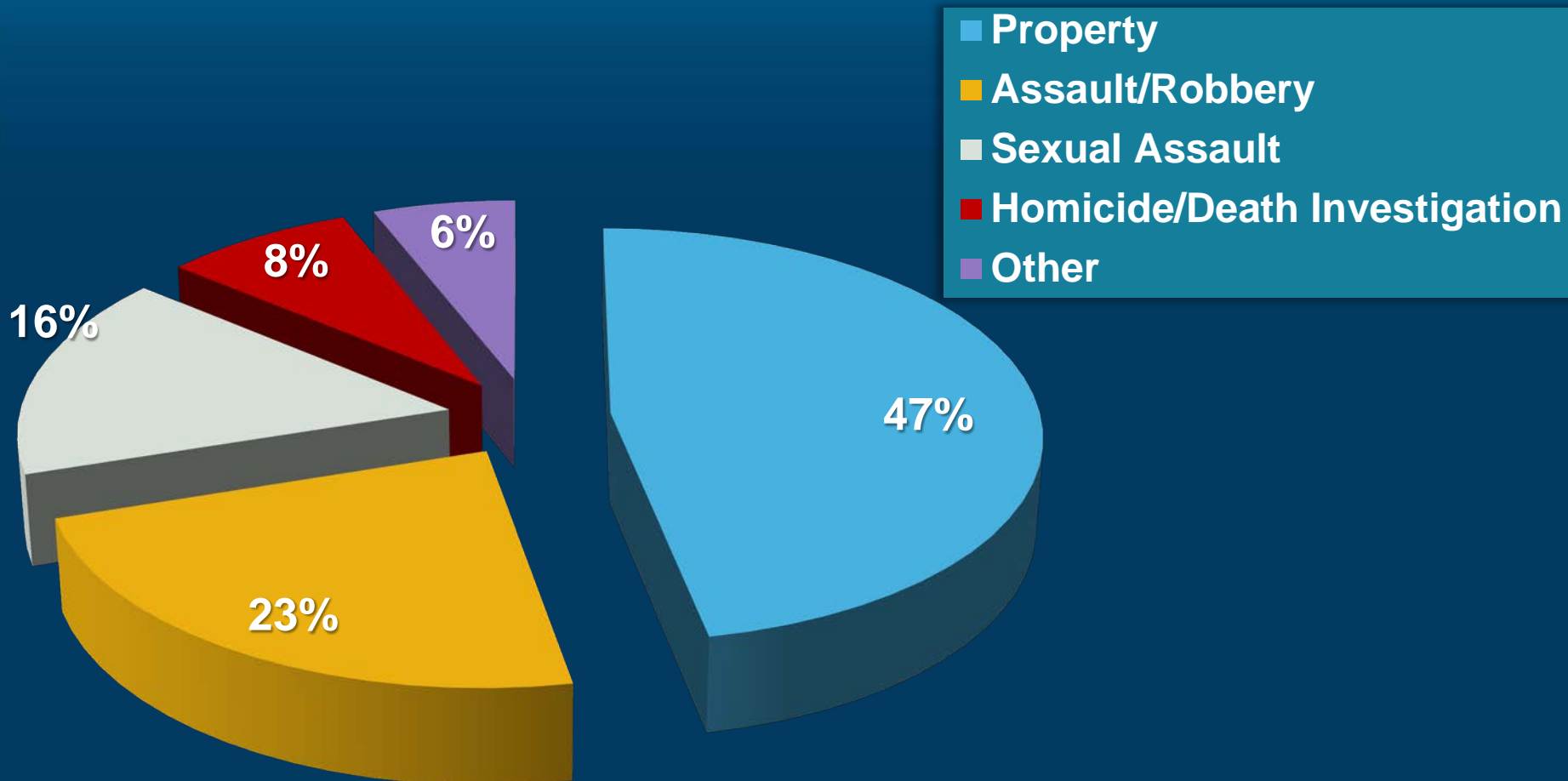
Cases submitted for **DNA** testing include crimes against persons such as sexual assault, homicide and robbery, as well as property crimes such as burglary and theft

Crimes against persons are given **first priority** for testing

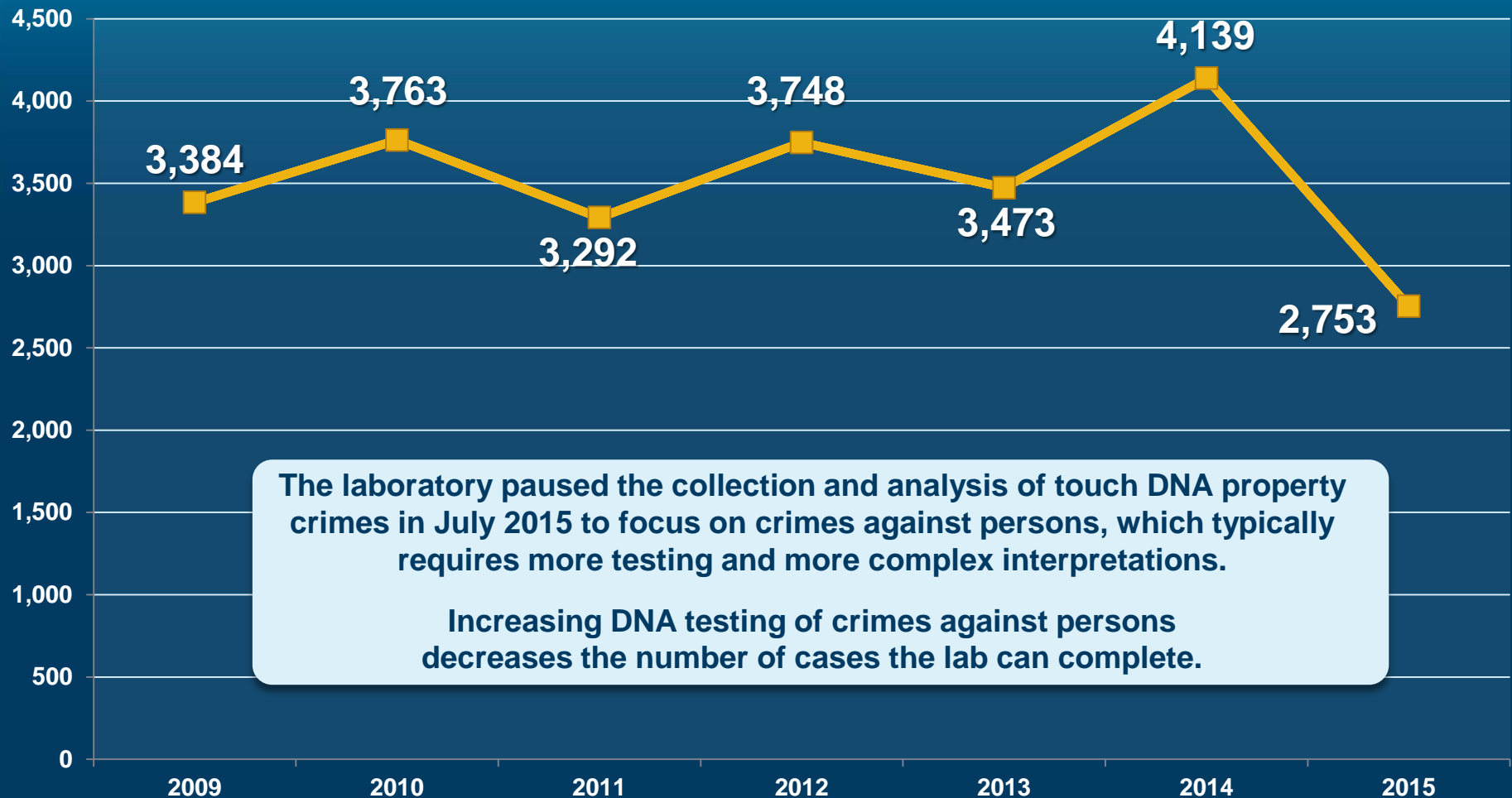


Case Submissions Stratified by Type

N=4,342



Cases Completed 2015



CODIS Hits 2015



Trace Evidence DNA Collection Team

Specialized DNA analysts who attend select death scenes to **collect DNA and trace evidence** from bodies that have been:

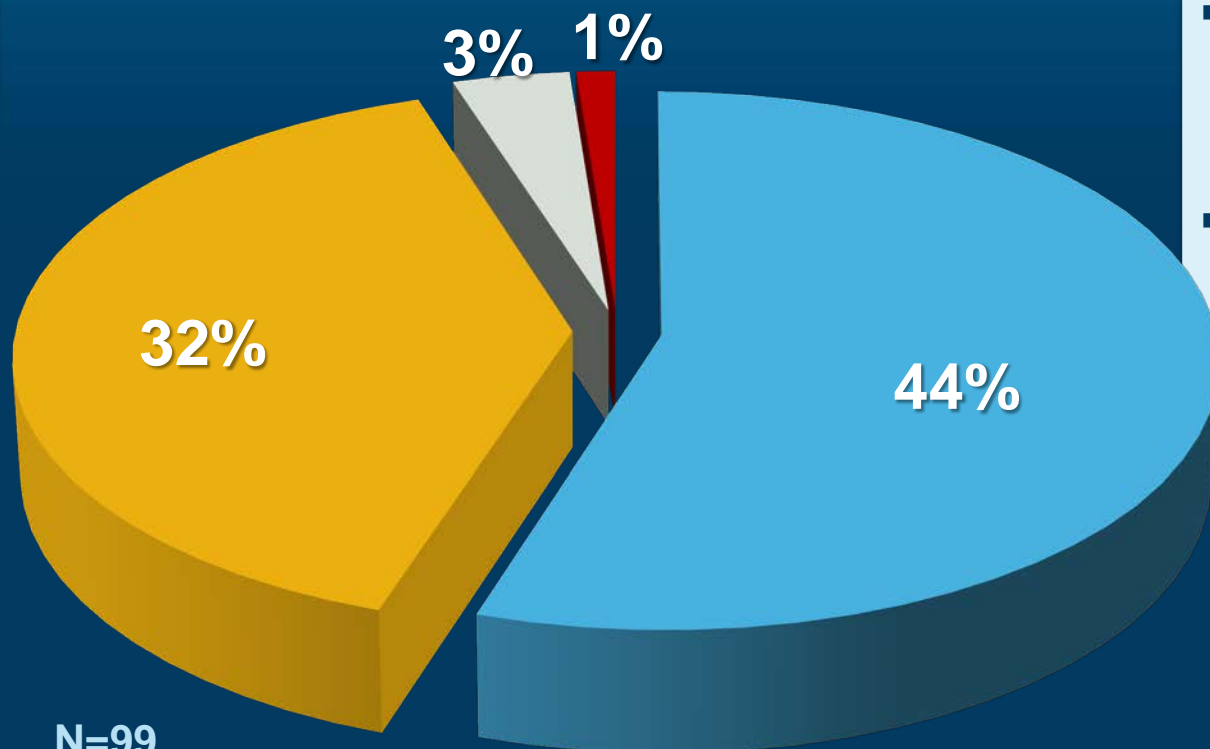
- Dumped
- Bound
- Thought to have been in close contact with the perpetrator

The team has had a number of **successes obtaining DNA** different from that of the victim

This information can assist investigators in **solving crimes**



Trace DNA Collection Homicide Cases by Cause of Death



- **80%** of the Trace DNA Collection Cases are **Homicides**
- Of those, almost half are cases of **Gunshot Wounds**

N=99


■ Gunshot Wound

■ Strangulation/Asphyxia

■ Blunt- or Sharp-Force Trauma

■ Homicide/Undetermined Cause of Death





Crime Laboratory Service:

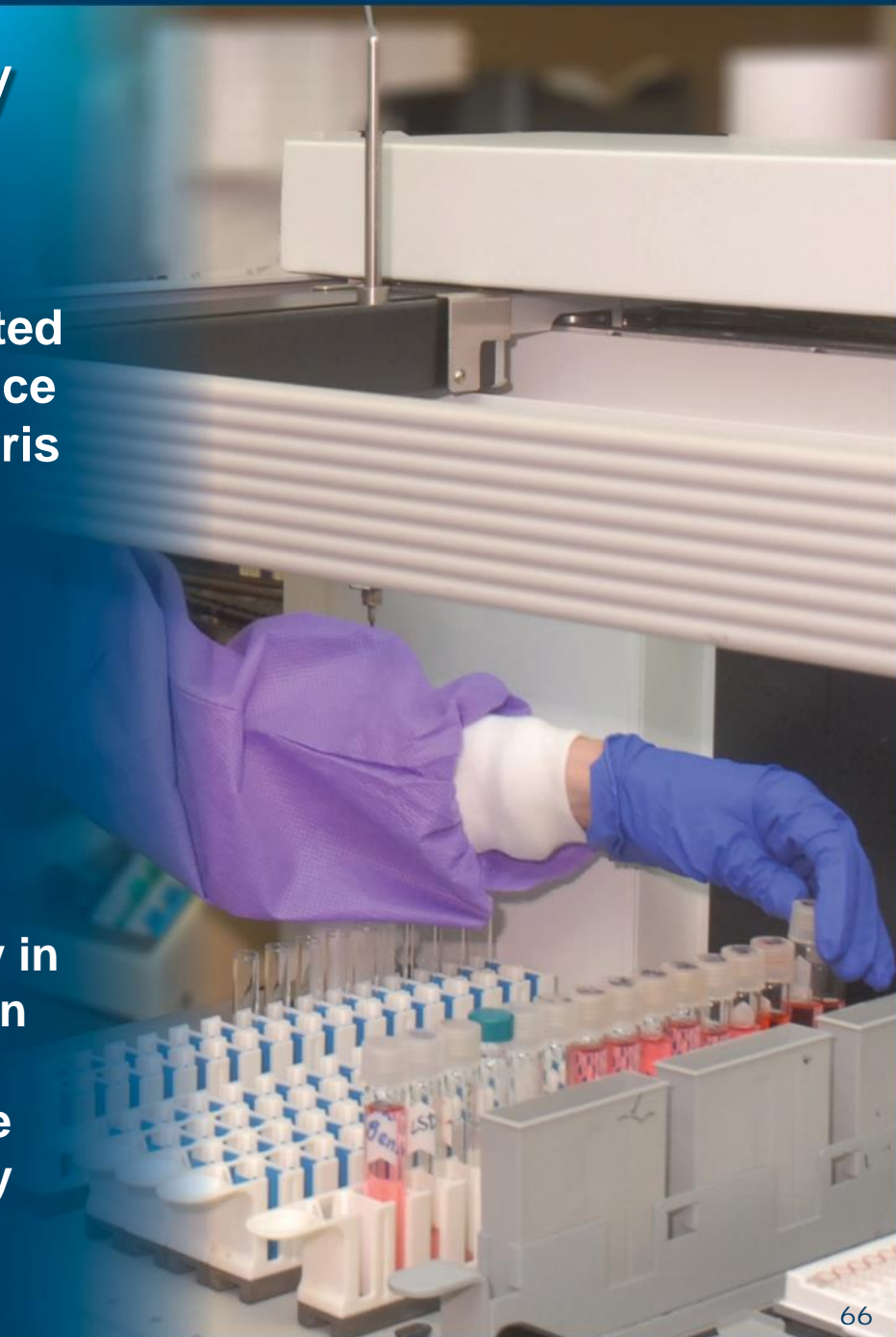
Forensic
Toxicology
Laboratory

Forensic Toxicology Laboratory

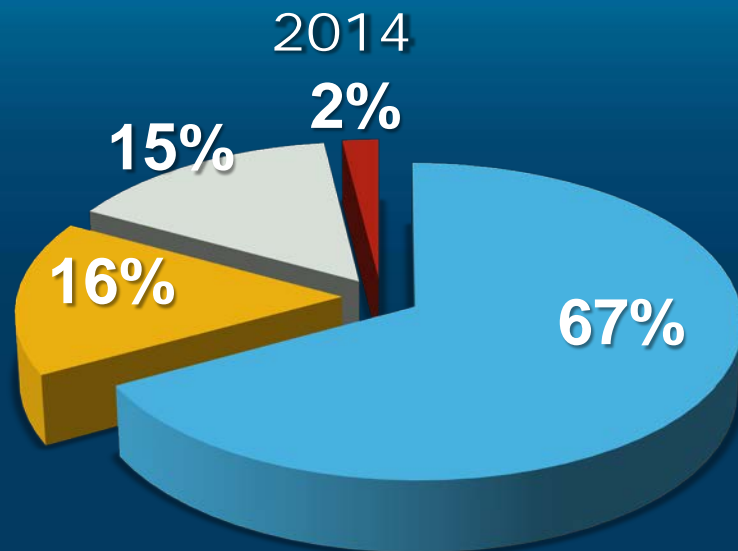
Analyzes **biological evidence** submitted by the HCIFS Medical Examiner Service and law enforcement agencies in Harris County for:

- Death investigations
- Driving while impaired (DWI) cases
- Drug-facilitated sexual assaults
- Other criminal investigations

The only forensic toxicology laboratory in Texas **dually accredited** by the American Society of Crime Laboratory Directors/ Laboratory Accreditation Board and the American Board of Forensic Toxicology

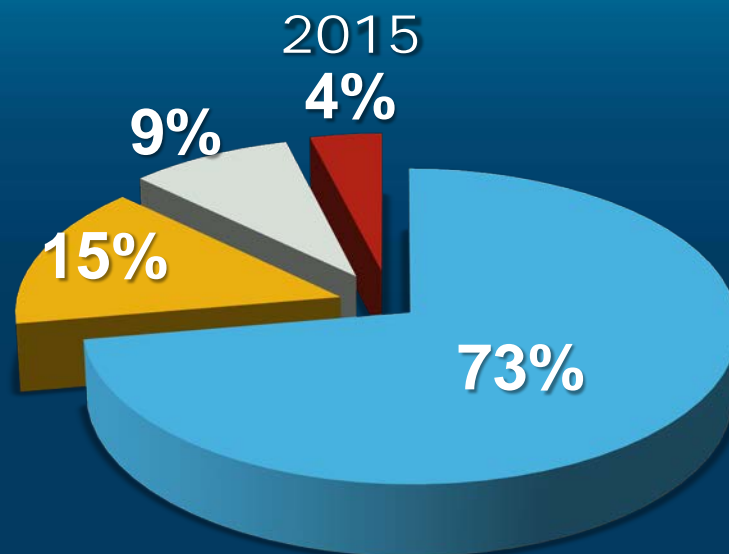


DWI Trends – Case Result Distribution



N=2,223

■ Alcohol-Positive Only: 1,480
■ Alcohol- & Drug-Positive: 348
■ Drug-Positive Only: 344
■ Alcohol- & Drug-Negative: 51



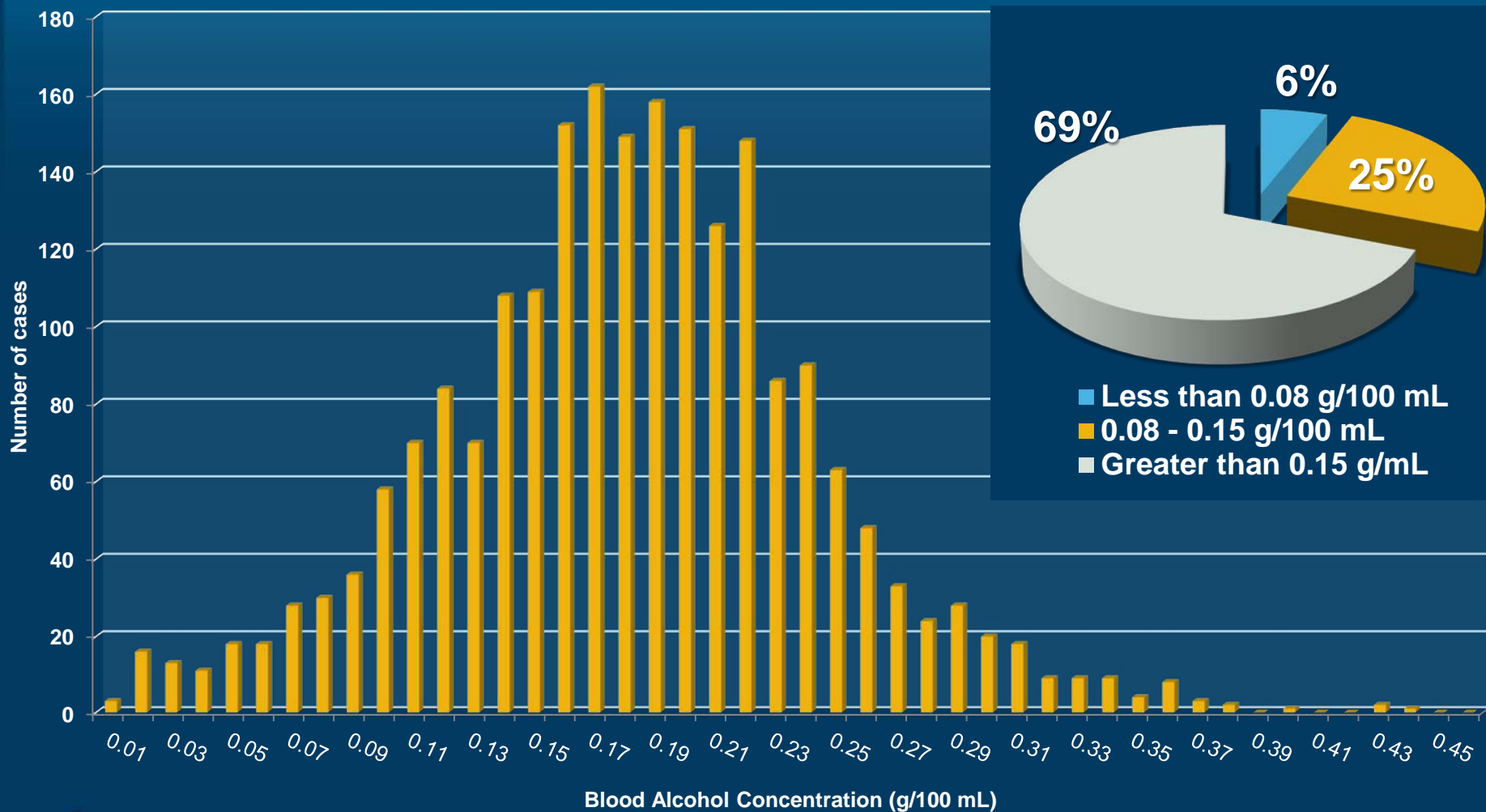
N=124

■ Alcohol-Positive Only: 1,925
■ Drug-Positive Only: 394
■ Alcohol- & Drug-Positive: 227
■ Alcohol- & Drug-Negative: 95

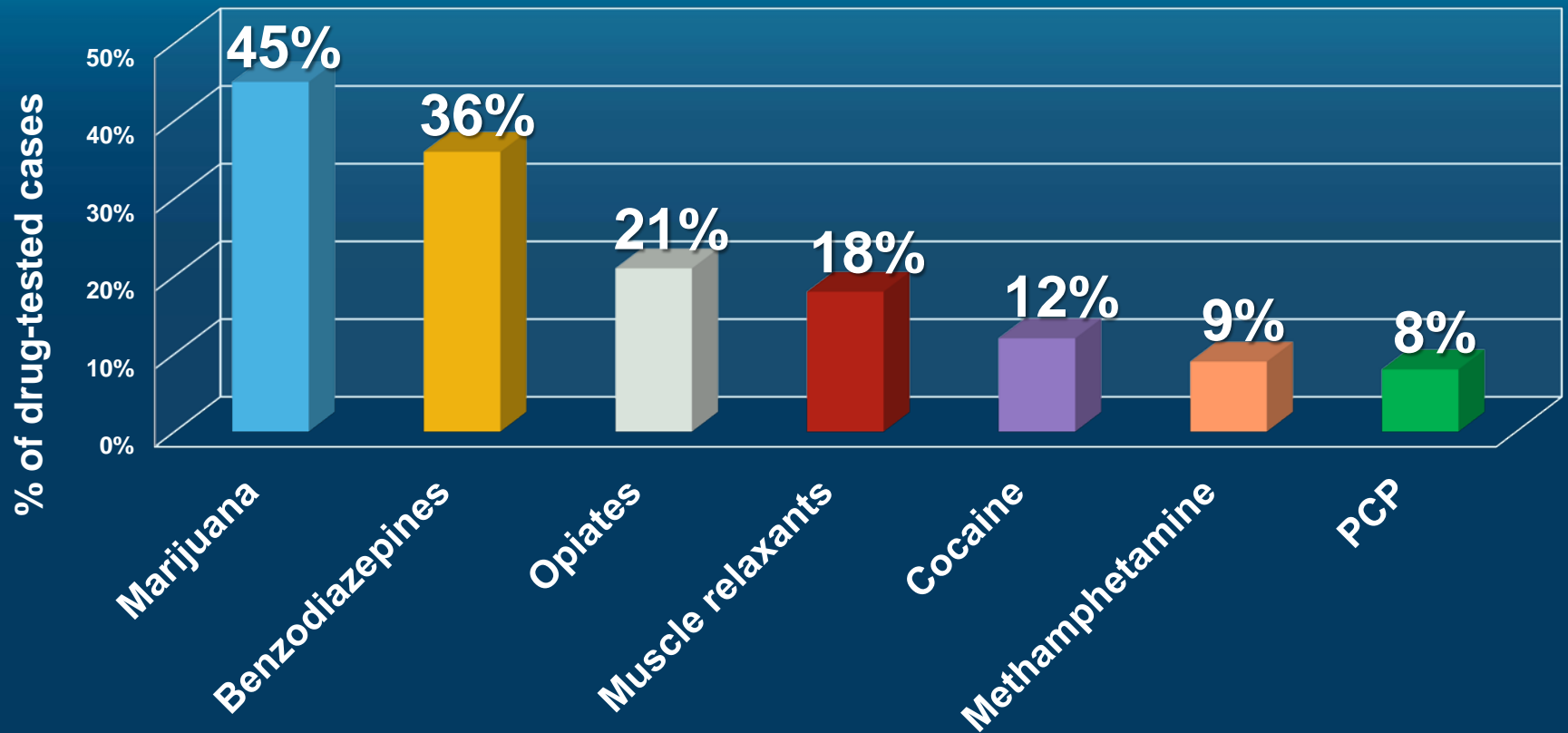
- Prior to June 2015, cases with alcohol of less than 0.17 g/100 mL received drug testing
- Beginning June 2015, cases with alcohol of less than 0.10 g/100 mL received drug testing



DWI Blood Alcohol Concentrations



Drug Prevalence in Drug-Tested DWI Cases



- True prevalence may be underrepresented as one case could have multiple drugs from a single drug class, e.g. opiates or benzodiazepines
- Other identified drug classes include: barbiturates, anti-seizure medicines, over-the-counter cough and cold medicines, huffing agents, bath salts, synthetic cannabinoids and anti-depressants



A man with a full red beard and mustache, wearing a light-colored short-sleeved shirt, is shown in profile looking through the eyepiece of a white and black compound microscope. The microscope is illuminated from below, creating a bright glow. The background is a dark blue gradient with some faint, illegible text.

Crime Laboratory Service:

Physical Evidence

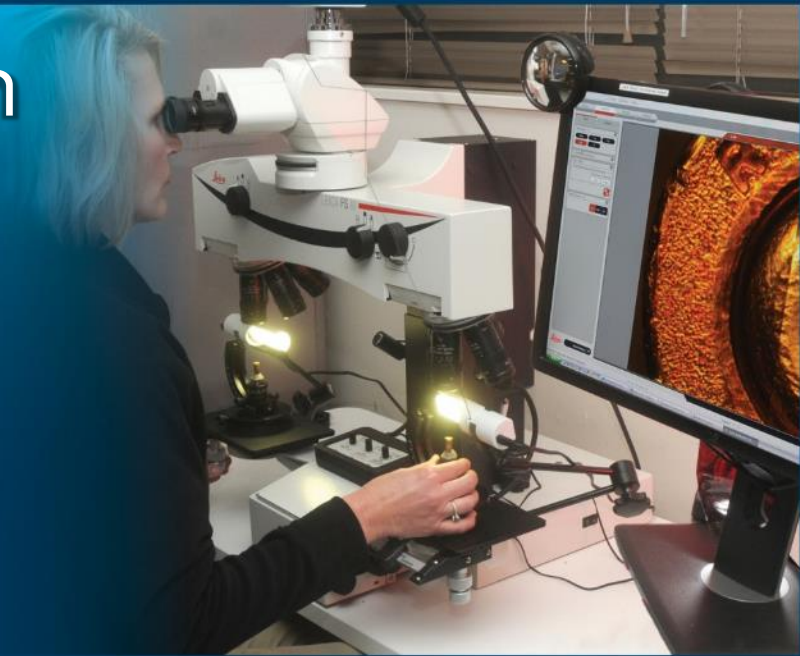
- Firearms Identification Laboratory
- Trace Evidence Laboratory

Firearms Identification Laboratory

Conducts examinations of evidence related to investigations of **gun-related offenses**

Examinations are conducted on the weapons, bullets and cartridge casings

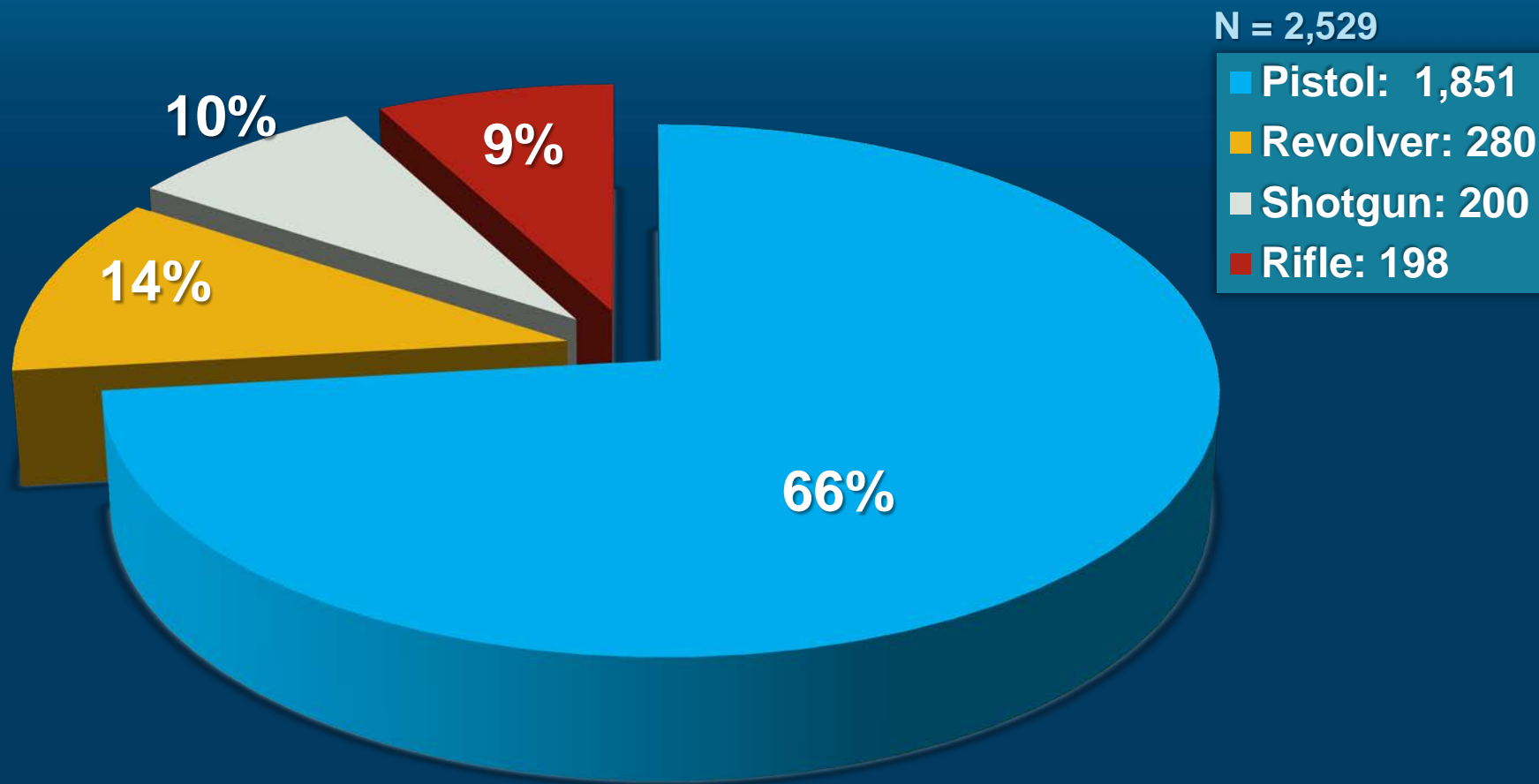
Serves as a **regional facility** for the transmission of data into the National Integrated Ballistics Information Network database



Firearms Identification Casework



Firearms Received by Type



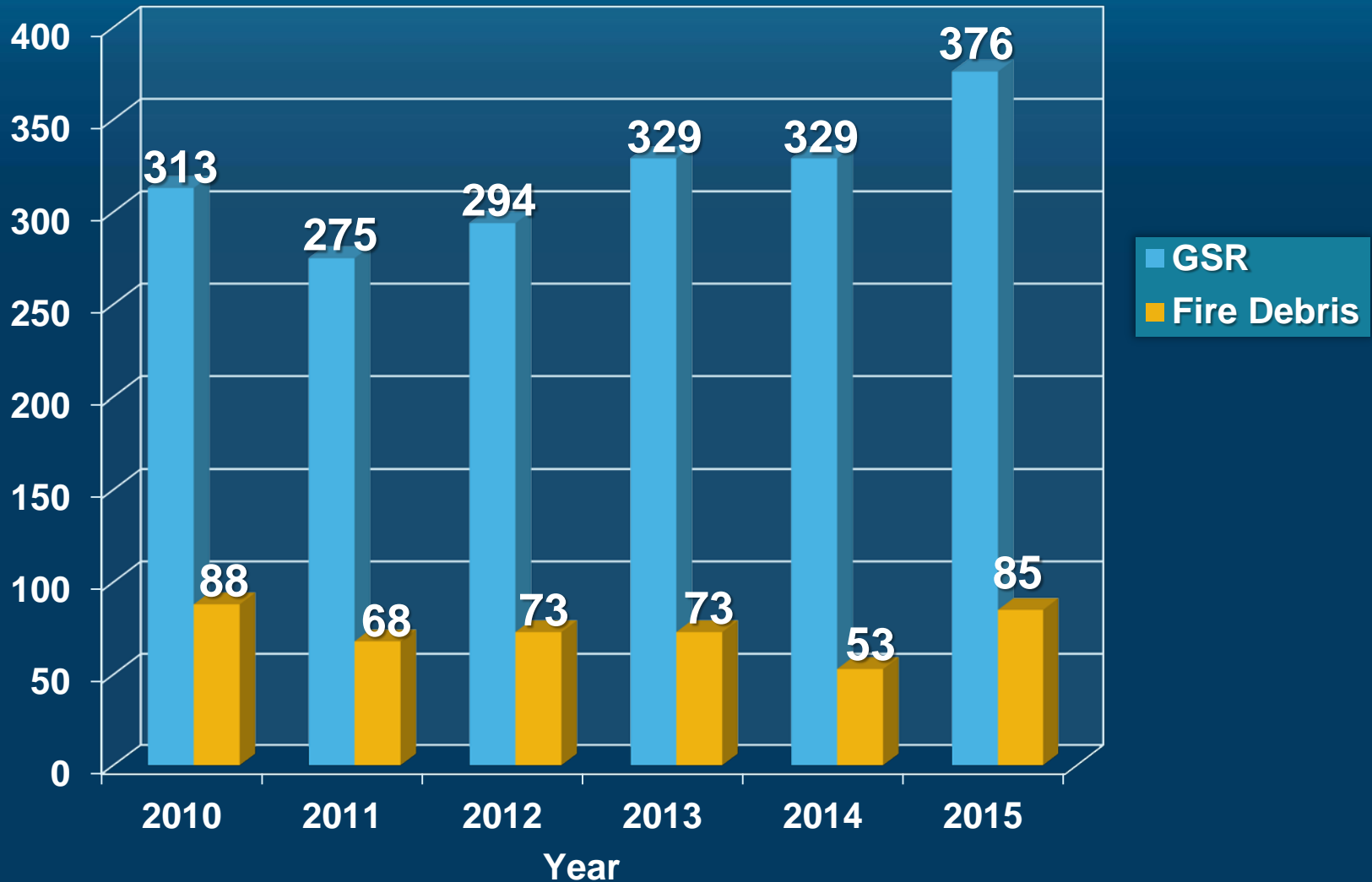
Trace Evidence Laboratory

Provides analytical support to the HCIFS Medical Examiner Service and law enforcement in two areas:

- **Fire Debris Analysis**
Remnants of fires in order to assist investigators in determining whether a fire was intentionally set
- **Gunshot Residue (GSR) Analysis** Assists in determining whether a person or object has been in close proximity to a fired weapon

Trace Evidence Casework

Cases
Received



Annual Report 2015

Published Scientific Work

18 published works
in peer-reviewed
journals



Publications by HCIFS Scientists

	Author/s	Title	Publication
1	Bird CE , Fleischman JM	A Rare Case of an Intact Bone Plug Associated with a Gunshot Exit Wound	Journal of Forensic Sciences. 2015;60(4):1074-1077. doi:10.1111/1556-4029.12756
2	Crowder C	Review of Biological Affinity in Forensic Identification of Human Skeletal Remains	Journal of Forensic Sciences 60(6):1671-72
3	Derrick SM , Raxter MH, Hipp JA, Goel P, Chan EF, Love JC, Wiersema JM , Akella NS	Development of a Computer-Assisted Forensic Radiographic Identification Method Using the Lateral Cervical and Lumbar Spine	Journal of Forensic Sciences. 2015;60(1):5-12
4	Drake SA , Cron SG, Giardino A, Trevino V , Nolte KB	Comparative Analysis of the Public Health Role of Two Types of Death Investigation Systems in Texas: Application of Essential Services	Journal of Forensic Sciences. 2015;60(4):914-91 doi:10.1111/1556-4029.12748
5	Drake SA , Hendrix C, Garza R., Godwin, K	Stranded Motorist Deaths in Harris County, Texas: A Deadly Game of Highway Roulette	Journal of Forensic Nursing. 2015. doi: 10.1097/JFN.0000000000000078
6	Drake SA , Adams N	Forensic Nursing Science Simulation Scenarios: Design and Implementation Strategies	Clinical Simulation in Nursing 2015;11(3), 194-198 doi: 10.1016/j.ecns.2014.11.004
7	Drake SA , Langford R, Young E, Ayers CJ	Forensic Nursing Science Knowledge and Competency: The Use of Simulation	Crit Care Nurs Q 2015;38(1), p.81-88. doi: 10.1097/CNQ.0000000000000045
8	Hanzlick RL, Goodin J, Haden-Pinneri, KH	Mind Your Manners: 20 Years Later	Academic Forensic Pathology. 2015; 5(3):380-395.
9	Love JC, Derrick SM , Wiersema JM , Peters C	Microscopic Saw Mark Analysis: An Empirical Approach	Journal of Forensic Sciences. 2015; 60(S1):S21-S26
10	Peterson JE, Love JC, Pinto DC , Wolf DA , Sandberg G	A Novel Method for Removing a Spinal Cord with Attached Cervical Ganglia from a Pediatric Decedent	Journal of Forensic Sciences (Epub). 2015;1-4. doi:10.1111/1556-4029.12925



Publications by HCIFS Scientists

	Author/s	Title	Publication
11	Pinto DC, Love JC, Derrick SM, Wiersema JM, Donaruma-Kwoh M, Greeley CS	A Proposed Scheme for Classifying Pediatric Rib Dead Fractures Using Case Examples	Journal of Forensic Sciences. 2015;60(1):112-117
12	Pinto DC, Pace ED	A Silver-Stain Modification of Standard Histological Slide Preparation for Use in Anthropology Analyses	Journal of Forensic Sciences. 2015;60(2):391-398 doi:10.1111/1556-4029.12697
13	Sanford M	Forensic Entomology in the Medical Examiner's Office	Academic Forensic Pathology. 2015; 5(2):306-317
14	Sanford M	Forensic Entomology of decomposing humans and their decomposing pets	Forensic Science International. 2015; 247:e11-e17
15	Sanford MR, Tomberlin JK, VanLaerhoven SL	Behavioral Ecology and Forensic Entomology (Book Chapter)	International Dimensions and Frontiers of Forensic Entomology. (Tomberlin JK, Benbow ME (eds.)), Taylor & Francis, Boca Raton, FL. 2015, p. 331-336
16	Tomberlin JK, Sanford MR, Pimsler ML, VanLaerhoven SL	Vertebrate Carrion as a Model for Conducting Behavior Research (Book Chapter)	Carrion Ecology, Evolution and their Applications. (Benbow ME, Tomberlin JK, Tarone AM (eds.)), CRC Press, Boca Raton, FL. 2015, p. 213
17	Zychowski KE, Elmore SE, Rychlik KA, Ly HJ, Pierezan F, Isaiah A, Suchodolski JS, Hoffmann AR, Romoser AA, Phillips TD	Mitigation of Colitis with NovaSil Clay Therapy	Digestive Diseases and Sciences. 2015;60:382-392. doi:10.1007/s10620-014-3360-7
18	Dierksen, J, Gonsoulin, M, Walterscheid, JP	Poor Man's Methadone. A Case Report of Loperamide Toxicity	The American Journal of Forensic Medicine and Pathology. 2015; 36(4): 268-270



Fellowship Programs



Medical Examiner Fellowship Programs

Forensic Pathology Fellowship:

A 1-year fellowship that is a required training program for all new pathologists seeking Forensic Pathology Board certification

January – June 2015

- 2 fellows completed:
182 autopsies and
3 external examinations

July – December 2015

- 2 fellows completed:
141 autopsies and
6 external examinations





Medical Examiner Fellowship Programs

Forensic Anthropology Fellowship 1:

A 1-year grant-funded research project evaluating the relationship between cervical spine injury and blunt head trauma in a pediatric population

January – September 2015:

- 1 fellow collected data from **15** study subjects and modified the Infant Injury Database for data entry

Medical Examiner Fellowship Programs

Forensic Anthropology Fellowship 2:

A 1-year grant-funded research project continuing the investigation in pediatric bone health by validating qualitative ultrasound data using bone mineral density Measurements from four separate modalities

October 2015 – December 2015:

- 1 fellow collected data from 8 study subjects and entered medical history and demographic data into the Infant Injury Database



A woman with reddish-brown hair and glasses, wearing a pink lab coat and blue gloves, is using a white pipette to transfer liquid into a small vial. She is looking down at the pipette tip with concentration.

Crime Laboratory Fellowship Programs

Forensic Toxicology:

A 2-year fellowship providing training for doctorate-level scientists seeking specialization in Forensic Toxicology

The program involves a combination of learning:

- **Forensic toxicology analytical operations**
- **Method validations**
- **Publications/presentations**
- **Interpretation skills**
- **Court testimony training**

Crime Laboratory Fellowship Programs

Forensic Genetics:

A 2-year program designed to train life science doctorates in casework and validation methods

Fellows focus on furthering specialized testing in Forensic Genetics, including animal and insect DNA testing





HARRIS COUNTY

INSTITUTE OF FORENSIC SCIENCES



2015
Annual
Report